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## UTILITY REGULATION THE BIGGEST PROBLEM FACING BUSINESS

Somebody asked the editor of Nation's Business: "What in your opinion is the biggest problem American business must face in the next five years?"

In view of present conditions that certainly was a hard nut to crack, but the editor did not falter in answering, and his reply is of interest to all companies engaged in serving the public. He said:

* * * *

"The biggest problem ahead of American business is to reconcile the regulation or control by our government of our public utilities with the advantages and advances which we properly associate with private ownership, individual initiative and the profit motive.

No phrase is easier to say than 'private ownership under public regulation.' But every time we increase government regulation we are in danger of decreasing the benefits we get from private ownership.

Take our railroads. We have a government fixing of the price of their chief commodity, freight rates. Perhaps the advantages of that rate regulation are greater than the disadvantages, but are there no disadvantages?

If we strait-jacket business by government regulation, we shall not do it without sacrifice to the virility of the industry. In economics, as in all things else, we want to eat our cake and have it, too. We feel that some measure of government regulation of our utilities is needful, but we don't want to bring them down to a single pattern of drab uniformity."

The system of state regulation of public service companies plainly implies that there are obligations on both sides. The companies owe the state certain obligations, and no less surely the state has responsibilities towards the companies furnishing the service. Too often the state forgets these obligations, while seldom failing to hold the public service companies to strict account.

Summarizing an address by Matthew S. Sloan, president of the National Electric Light Association, these obligations may be described as the "Fourteen Points of State Utility Regulation"—seven for each side. Mr. Sloan's appeal was for the rejuvenation of the state regulation system which, in some quarters, may be said to have fallen on evil days and have come in for a great deal of adverse criticism. If these obligations are mutually discharged, he believes, much of this criticism will disappear.

* * * *

As they apply to all forms of utility service, the 14 obligations are here recorded. The seven utility obligations (meaning the service company's obligations) are as follows:

1. Utilities should supply the highest standards of service possible in the conditions under which they operate.

2. Utilities should keep their plants and equipments scientifically up to date.

3. Utilities should endeavor to meet the needs and desires of the people and communities served.

4. Utilities should use commercial enterprise in extending the number of uses and the sales of service.

5. Utilities should cooperate with public spirit in good citizens' movements and community development.

6. Utilities should pay their employes well and provide properly for advancement and for insurance, retirement, sick benefits, and the like.

7. Utilities should charge prices which will keep them prosperous and attract new capital for extension, but should not profiteer.

* * * *

On the other hand, here are the seven state obligations:

1. The state should regulate utilities to make certain that their service will be modern, progressive, making due allowance for individual conditions.

2. The state should make certain the utilities receive, if they can earn it, sufficient income to make them prosperous.

3. The state should not allow utilities to profiteer if they try to.

4. The state should check the honesty and accuracy of utility accounts and financial transactions.

5. The state should have access to all information necessary to form an estimation of the propriety of utility prices.

6. The state regulatory processes should be fair—that is, free from personal or political bias and rancor—and intelligent—that is, free from economic error.

7. The state regulatory processes should be simple, so that they might be reasonably prompt and as little expensive as need be.

As a line of conduct for both companies and regulatory bodies, the "Fourteen Points" chart a course which, if followed closely, would remove most of the difficulties from their path.

Without much doubt the service companies, generally speaking, come nearer to keeping on that course than do the regulatory authorities.

**The Business Outlook.**

Many and varied have been the comments made by speakers on business conditions since general industry has slowed up. Some have been gloomy and some have been almost hysterically optimistic, but we confess a liking for the sentiments expressed by a telephone man—William N. McAnge, Jr., president of the Inter-Mountain Telephone Co.—before the Rotary Club of Johnson City, Tenn.

A survey of business conditions in the Appalachian territory, he said, shows that most concerns have suffered but little, and he cited concrete instances of business progress in the area his company serves.

"It is true," remarked Mr. McAnge, "that we should recognize that a slight depression exists, but that depression is altogether relative. In 1929 the United States reached the pinnacle of prosperity. This peak could not be maintained for various reasons, and it is now assuming the average.

"Business men, judging their own business by that of 1929, believe that hard times really exist, but we have passed the other extreme and are now on the upgrade. . . . Prosperity makes fools of us all, and we are paying for the time we were too prosperous. We must not let the mistake be fatal. There is an overproduction of pessimism for which there is no cause."

There is sound common sense in these opinions. Mr. McAnge also hit the nail on the head when he advised company executives not to reduce employes' wages. He said, if conditions demanded, it would be wiser to cut executive salaries.

The same thought was expressed by Roger W. Babson who acquired considerable fame as a business prophet by predicting early in 1929 the stock market collapse of last October. Now he forecasts a substantial business revival this fall.

"I certainly am optimistic regarding this fall," he said in a recent address. "It is just as evident today that business is bound to improve as it was evident a year ago that the high pace of 1929 could not be kept up."

Regarding next year and the future he declared that prosperity depends on the circulation of money, and he gave concrete recommendations to business men, the most important of which he said was to spend more money on advertising.

"We will not get money to circulate faster by reducing wages," he said, "or by discharging employes, or by refusing to buy or by talking gloom."

As pointed out before, in view of present commodity prices, now is a good time for telephone companies to buy materials.

## COMING CONVENTIONS

**United States Independent Telephone Association, Hotel Stevens, Chicago, Ill., October 14, 15, 16 and 17.**

**Independent Pioneer Telephone Association of United States, Stevens Hotel, Chicago, Thursday, October 16.**

**Illinois Telephone Association, Pere Marquette Hotel, Peoria, November 12 and 13.**

**Missouri Telephone Association, Hotel President, Kansas City, November 18 and 19.**

**Canadian Independent Telephone Association, Prince George Hotel, Toronto, November 25 and 26.**

**Nebraska Telephone Association, Lincoln, Hotel Lincoln, February 10, 11 and 12, 1931.**

**South Dakota Telephone Association, Sioux Falls, January 13, 14 and 15, 1931.**

**Iowa Independent Telephone Association, Hotel Fort Des Moines, Des Moines, April 7, 8 and 9, 1931.**

# Central Office Engineering Practices

## In Engineering of Central Office Equipment, Peg Count Is Fundamental Record Upon Which Requirements Are Based—Determinations Based Upon Peg Count and How Made—Third Award "Telephony's" Prize Article Contest

By C. L. Havener,

*Traffic Engineering Department, United Telephone Co., Abilene, Kans.*

The subject of traffic engineering is naturally divided into two major activities: First, the engineering of new or additional central office equipment; and second, the engineering of toll line facilities. This paper will treat only the first activity—the engineering of central office equipment.

The engineering of central office equipment is a fundamental activity inasmuch as the first requirement for giving satisfactory service is adequate operating facilities. You may have a thoroughly trained force that is carefully supervised and working on a perfect schedule, but they cannot give good service if the operating facilities provided them are inadequate or poorly arranged.

The peg count is the fundamental record on which the requirements are based. Without it we have only a vague idea of what is needed. Since this is such an important record, it will be well to cover briefly the more vital points.

First, the peg count must be accurate. The operators should be instructed to count the call when they hear the subscriber's voice, one call being counted for every answer to a line signal where the subscriber speaks to the operator for any purpose. A call will be counted for every answer to a cord signal where the subscriber asks for another member. A call will be counted when an operator plugs up a line on which the subscriber is ringing someone else on the line.

The register readings should be made in the same order each hour and as nearly on the hour as possible. The subtractions should be made after each hour's readings so as to discover faulty registers or any abnormal condition. It is desirable to have a practice count taken for a day or so prior to the regular count.

Second, the peg count should be a reflection of the average condition, therefore any abnormally high or low day should not be used. Saturdays, Sundays and holidays, and days immediately preceding or following holidays should not be used. The first day of the month should not be used, but the peg count should be as near as possible to the first of the month and should include a Monday or a Friday.

Third, in offices requiring five or more

operators on duty in the busiest hour, a two- or three-day count should be made each month. Offices smaller than this should probably not be required to count over four times each year.

Fourth, once or twice a year a special count of all different classes of calls should be made in order to obtain the value of each originating call. Thus, a separate count would be made of each of the following classes in a common battery office having magneto rural lines: Rural-to-rural, rural-to-city, city-to-rural, city-to-city.

From such a count a figure may be obtained that will represent the number of work units per originating call. This figure may then be applied to originating

**"The Peg Count," Declares Mr. Havener, "Is the Fundamental Record on Which the Operating Facilities Requirements Are Based. Without It We Have Only a Vague Idea of What Is Needed."**

calls of following months to obtain work units.

Fifth, a running record should be kept showing for each peg count the number of calls per day and busy hour and the number of lines and stations working. This information is then in a form that is easily accessible.

On account of the time necessary to manufacture and install switchboard equipment, it is essential that the requirements be determined far enough in advance to allow ample time for installation. Furthermore, if a new switchboard or an extensive change or addition is necessary, it should be engineered to take care of the estimated requirements for about two years. In some cases it will be economical to provide for three years.

If the period is less than two years, the investment in idle facilities will be less but the extra cost for engineering and labor on an additional job will ordinarily be greater. In other words, it is usually found more economical to pay the carrying charges on the idle equipment than the labor and engineering costs incident to two jobs.

This brings us to the estimate of future requirements. It is necessary to know how much equipment is needed on the initial installation and how much will ultimately be needed. How many positions will be needed two years after the installation? Shall it be magneto or common battery? How many subscribers' lines will be in use at that time?

These are the things that must be determined, and this is where that basic record—the peg count—comes into use.

The number of subscribers' lines and stations must be estimated for the period to be covered. This estimate should be based on the records for the past three or four years with due regard for any proposed rate changes or any other condition that might affect the normal trend. These estimates are made in different ways. One method is to plat the previous three or four year's figures on graph paper, and then project them through the period to be estimated.

The number of switchboard positions required depends on the estimated number of originating calls in the busy hour. Having estimated the number of lines and stations, the number of originating calls can be determined by multiplying the estimated lines or stations by the expected busy-hour calling rate per line or station. Considerable care should be exercised in estimating the busy-hour calling rate per line or station since a small error on this item will be magnified when applied to the estimated lines or stations.

The average busy-hour calling rate as determined from peg counts of recent maximum months should be the basis for the estimated busy-hour calling rate, modified for any known or possible future changes. If the maximum months used seem to be much higher than ordinary maximum months, possibly a mean between the latest and ordinary maximum months should be used.

Having determined the estimated number of originating calls expected in the busy hour, it is then necessary to convert calls to units. The coefficient—that is, the amount of work units per call—applicable to the type of switchboard being considered must be determined. A few of the coefficients most frequently used follow:

| | Type of Switchboard | | |
|---|---|---|---|
| | Common battery | | |
| | Manual cord | Feature cord | |
| Class of call. | circuit. | circuit. | Magneto. |
| Local to local... | 1.00 | .77 | 1.60 |
| Local to magneto rural ..... | 1.30 | 1.07 | 1.60 |
| Magneto rural to local ..... | 1.30 | 1.07 | 1.60 |
| Magneto rural to magneto rural. | 1.60 | 1.60 | 1.60 |

**The telephone art has made great advances in the past two decades and theory and practice are now closer together than ever before. The old methods of "cut and try" have been replaced by careful planning based upon the application of engineering principles.**

**The place of traffic engineering in the determination of central office facilities is now well established. Just what is included in the traffic engineering of central office equipment is outlined by Mr. Havener in his article on "Central Office Engineering Practices."**

**Mr. Havener has been engaged in traffic work since June, 1916, when he entered the traffic department of the Bell company at Kansas City, Mo., as a student. In September, 1917, he became an assistant in the traffic engineer's office of the Southwestern Bell company at Topeka, Kans., and after two years was made a district traffic chief. In July, 1925, he became field traffic supervisor for the United Telephone Co., at Abilene, Kans., and in June, 1928, was made traffic engineer of the company.**

**With all this experience in traffic work, Mr. Havener is enabled to write authoritatively of the fundamentals of traffic engineering as it applies to central office equipment.**

| | | | |
|---|---|---|---|
| Coin box post, ticket ..... | 2.88 | 2.65 | 3.48 |
| Coin box post, no ticket ..... | 2.56 | 2.33 | 3.16 |

The expected busy-hour units are the product of the estimated calls and the proper coefficients. From this is determined the number of switchboard positions required.

Large teams of operators are more efficient than small teams just as large trunk groups are more efficient than small groups. If we have a team of 12 or more operators on duty in the busy hour, the engineering load basis is usually accepted as 245 units per operator; more than 4 and less than 12, 230 units; four positions, 225 units; three positions, 220 units; two positions, 200 units, and one position, 150 units.

Thus, if the busy-hour units were 1,180, the positions required would be 1,180 divided by 230, or 5. If the busy-hour units were 395, the positions required would be 395 divided by 200, or two positions.

There are many things to be considered in making a decision between magneto and common battery equipment and between manual and machine switching. Comparative cost studies should be made and the rate of growth and subscribers' attitude must be taken into consideration.

In considering a change from magneto to common battery, the condition of the outside plant and the probable cost of making it suitable for common battery

should be given serious study. Likewise the improved service and lower operating cost of common battery equipment must enter the question. Magneto equipment is limited as to growth, whereas common battery is flexible in this respect.

In deciding between manual and machine switching, the same factors should be considered. What will have to be done to the outside plant to make it suitable for machine switching? Will the savings in operating costs offset the carrying charges on the new equipment? What is the customer's attitude?

These are the things that should be the basis for the decision.

Ordinarily magneto equipment should not be installed where it is expected to grow beyond three or four positions before the life of the board has been exhausted. In planning the arrangement of the face equipment on a magneto switchboard, space should be left below the city local drops and jacks for rural line drops and jacks and any other special lines that should not be mixed in with the regular local lines. This is essential if the numbering system is to be kept in order. However, in very small boards where the rural lines almost equal the town lines, the separation is not important.

The problem of local trunking, of course, does not enter until two positions are exceeded; and when this limit is passed, trunking starts and multiplies as the board grows. Sometimes trunking can be reduced by a careful arrangement of equipment. For example, the business lines which have the higher calling rate are usually in the 0 to 99 count in the smaller offices. Quite often these lines can be placed where they are easily accessible to the other lines. If this can be done, considerable trunking will be eliminated.

Small common battery board in most cases should be on a four-panel basis. This allows full use of end position, since the maximum reach will be only two panels. Furthermore, this allows for ample growth since 1,600 lines can be installed by going four banks high. This arrangement, of course, presumes the use of combined multiple and line lamps and it does not seem desirable to use any other plan.

There are several arrangements for taking care of magneto rural lines in common battery offices. In the smallest offices it is probably better to provide universal cord circuits so that calls between rural and local can be completed on all positions.

In larger offices where the provision of universal cord circuits would be out of the question, it is of course necessary to provide a separate rural position and trunk to it, or arrange the rural line circuit so that it will be suitable for use with the common battery cord circuits and multiple the rural lines in front of the local operators.

In deciding between manual and feature cord circuits, the relative costs of equipment and savings in operators' wages should be the basis. The obvious advantages of machine ringing and flashing recall should be carefully considered in making the decision.

In this connection it is well to remember that automatic ringing can be provided with practically no additional cost if individual line service only is given. By automatic ringing, it is meant that the ringing starts upon plugging the calling cord into the jack of the called line without the necessity of operating any key. Machine ringing requires the starting of the ringing by operating a key or button.

Machine-switching equipment is available for the very small town or the metropolitan city and for towns of all sizes in between. This type of equipment in the small village is usually arranged so that any manual service required, such as information and long distance, can be furnished by means of trunk lines to a larger town near by. By dialing a certain number, the subscribers are connected to the operator in the larger town. The possibility of serving these communities in this manner is too often overlooked.

When it is apparent from the traffic studies that a change is going to be necessary, consideration should be given to both the manual equipment and the machine-switching equipment.

While it has not been possible to go into very much detail in this paper, it is hoped that the importance of traffic engineering work has been brought out and that it will be of some real value in engineering central office equipment requirements.

## Sale of St. Paul, Minn., Property to Bell Discussed at Conference.

A conference of the executive committee of the United States Independent Telephone Association and representatives of the Bell was held at the Hotel Stevens in Chicago on September 11. Those present representing the Bell interests were: Vice-President E. F. Carter, Assistant Vice-President C. D. M. Cole, of the American Telephone & Telegraph Co., New York, and H. O. Leinard, Cleveland, Ohio, assistant to vice-president, American Telephone & Telegraph Co.; W. B. T. Belt, president, and A. A. Lowman, vice-president of the Northwestern Bell Telephone Co., Omaha, Neb.

The members of the executive committee of the United States Independent Telephone Association were President F. B. Mackinnon, Secretary C. C. Deering, Frank A. Knapp, E. C. Blomeyer, W. R. McCanne, W. H. Bryant, Geo. W. Robinson, and G. A. Yanochowski, president of the Kellogg Switchboard & Supply Co., who sat in the place of the late W. L. Jacoby.

The discussion of the conference centered upon the proposed transfer of the St. Paul and suburban exchanges of the Tri-State Telephone & Telegraph Co., St. Paul, Minn., together with certain through toll lines, to the Northwestern Bell Telephone Co. Statements were presented by Vice-President Lowman, of the Northwestern Bell company, President G. W. Robinson, of the Tri-State company, and Vice-President E. C. Blomeyer of the Gary interests, giving the reasons for the transfer.

The main reason given for the transfer of this property to the Northwestern Bell company is the close relationship of the twin cities of St. Paul and Minneapolis, and the necessity for one operating organization to provide the service. The transfer to the Northwestern of certain through toll lines in Minnesota and South Dakota came in for extended discussion. This included the question of the economic value of ownership of toll lines by Independent companies, on account of the present trend of toll line development and the consequent heavy investment required.

The executive committee of the United States association had discussed the question of the transfer of the St. Paul property to the Northwestern Bell company at a meeting prior to the conference. At a meeting after the conference, it was decided that in view of the importance of the transaction the matter should be referred to the full board of the association for consideration at its next meeting. This meeting will be held next month during the annual convention of the United States association. It is expected by that time that directors of the association will have been informed of the views of members in their respective territories as to the proposed transfer.

## Interesting Programs Arranged for Iowa District Meetings.

Additional Iowa district conferences have been scheduled by the Iowa Independent Telephone Association, the first of which will be held at Fort Dodge on September 22.

Another meeting will be held at Riceville on September 24, which will be followed by a conference at Manchester, on September 25. On September 26, a meeting will be held at Cedar Rapids.

Meetings during the following week have been scheduled for September 30 and October 1, at Knoxville and Washington, respectively.

Miss Anne Barnes, working under the auspices of the engineering extension department, Iowa State College, Ames, will conduct the operators' schools at these various meetings.

As a part of the program, the Northwestern Bell Telephone Co. will put on a "Power Arc Follow-Up" demonstration, which will be accompanied by a talk. Those present at these various conferences will have an opportunity at "Round Table" discussions to bring up for consideration a variety of subjects.

# Machine Billing of Telephone Charges

## Here Is Description of How One Company Bills Approximately 100,000 Toll Charges and 15,000 Subscribers Monthly, Exclusively by Machine, Not a Figure Written on Bill or Toll Statement in Long Hand—Methods Adopted

By T. T. Ferguson,
*Auditor, Southeast Missouri Telephone Co., Cape Girardeau, Mo.*

The ideals that man has held before him in his toilsome journey from savagery to civilization have varied with changing time and place. As the humanistic side of civilization has made progress we have attained higher ideals regarding industry.

As industrial enterprises have grown in magnitude, as processes have become more refined and competition more keen, the problems of organization have steadily grown in importance. Just as the tools and processes of our forefathers became inadequate as enterprises grew in magnitude, so the simple administrative methods formerly in use have long since been outgrown by modern plants.

Just as the industrial revolution of the 18th century affected industry in general, so have certain phases of the telephone industry been revolutionized in the past few years by the development of machines such as the following: Strowger automatic machine-switching equipment, the Pupin loading coil, repeater service, telephone typewriter, development of carrier circuits, and improvements in all adding, calculating and bookkeeping machines.

Not so many years ago the telephone industry was in a rut insofar as billing methods were concerned. All bills were issued on the first of the month, thereby creating a heavy load on the billing department throughout this period.

The introduction of rotation billing was a big step in eliminating this peak period. The practice of dividing the month into several equal periods and issuing bills several times during the month instead of only once, caused the work to flow more evenly throughout the month. The development of this method of billing paved the way for the introduction of the billing machines.

We, people of the Southeast Missouri Telephone Co., take pride in the fact that we have been among the pioneers in grasping the advantages offered by these new machines and methods.

Our subscriber's bills are made exclusively by machine, not a figure being written on the bill or toll statement in longhand. Such a bill is obviously more pleasing to the subscriber, it is more legible and has a tendency to inspire more confidence in its accuracy.

We issue approximately 15,000 subscriber's bill per month, and bill approximately 100,000 toll tickets. Our billing is divided into six periods. We issue approximately 2,500 bills on the 1st, 6th, 11th, 16th, 21st and 26th of each month. This billing is accomplished with two Burroughs toll billing machines and one Burroughs service biller.

Our company was among the first to adopt the Burroughs toll biller. This machine has a standard typewriter keyboard with an automatic carriage return and spacing device. The spacing device can be set to space any desired distance on the statement, and automatically spaces this distance without any further operation of the space bar.

The machine has an adding machine attachment at the bottom of the keyboard, making it possible to total each individual statement. These individual totals are collected in a register so that when the billing for an exchange is completed, the total of the toll service billed is available. This total is used for the toll figure on the controlling records.

SOUTHEAST MISSOURI TELEPHONE COMPANY
TOLL SERVICE AND OTHER CHARGES

| | PLACE CALLED | AMOUNT | CODE* |
|---|---|---|---|
| 1162W | | | |
| SEPT | | | |
| 3 | JXN | .10 | |
| 4 | CHAS | .25 | |
| 4 | JXN | .10 | |
| 5 | BENTON | .15 | |
| 5 | FLT | .15 | |
| | | .75 | |

*EXPLANATION OF CODE
P—PERSON TO PERSON RATE
A—APPOINTMENT RATE
M—MESSENGER CALL RATE
MS—MESSENGER SERVICE CHARGE
C—COLLECT CALL
E—EVENING RATE (7 P. M. TO 8:30 P. M.)
N—NIGHT RATE (8:30 P.M. TO 4:30 A.M.)
R—REPORT CHARGE
T—TELEGRAM
NO CODE-STATION TO STATION DAY RATE (4:30 A. M. TO 7 P. M.)

**Toll Statement of Southeast Missouri Telephone Co., Which Was Prepared on the Toll Billing Machine.**

The toll billing operation is a simple one. The tickets are, of course, filed daily in telephone number order by exchanges. When the final day's tickets for the current period are filed, the tickets for each individual number are fastened together by means of a rubber band or paper clip.

The tickets are placed on a stand at the operator's side and she writes the exchange and telephone number on the statement from the first ticket; the amount is then written in the keyboard, and the motor bar struck. The carriage shifts to the left and returns automatically; as it returns, the information from the next ticket is placed in the machine and the operation repeated until the last ticket for that particular number is billed.

The total key is now pressed down, and the total amount of the tickets billed to the statement in the machine is printed at the bottom of the statement. The practice of fastening the tickets for each

SOUTHEAST MISSOURI TELEPHONE COMPANY
STATEMENT OF OTHER CHARGES AND CREDITS

TELEPHONE NUMBER 1162W Cape Girardeau

| DESCRIPTION | DEBIT | CREDIT | TOTAL CARRIED TO BILL |
|---|---|---|---|
| Exchange Service 9/16 to 9/30 @ $1.50 | .70 | | |
| Service Connection Charge | 1.50 | | 2.20 |

**Special Statement of Other Charges and Credits, Which Are Typewritten.**

MAKE CHECKS PAYABLE TO THE COMPANY

TO SOUTHEAST MISSOURI TELEPHONE CO., DR. SEPTEMBER 1, 1930

This Bill is now due and payable at the Company's office. If not paid by the 25th ensuing service will be denied. We do not employ collectors.

CHARLES POE 127J
710 BROADWAY F
CAPE GIRARDEAU MO

This bill covers exchange service from Sept. 1 to Sept. 30 inclusive and is computed by the code EXCHANGE.
Toll service to date, is computed by the code TOLL and is itemized on statement enclosed.
Directory Advertising covering the same period as the exchange service is computed by the code ADV.
Other charges and credits, designated by the code OTHER are explained fully on the statement enclosed.

**STUB**
RECEIPT ON THIS STUB IS NOT VALID
SOUTHEAST MISSOURI TELEPHONE COMPANY
SEPTEMBER 1, 1930

CHARLES POE 127J
710 BROADWAY F
CAPE GIRARDEAU MO

WHEN MAILING PLEASE RETURN THIS STUB WITH YOUR REMITTANCE

COMMERCIAL OFFICE STUB — SEPTEMBER 1, 1930
TELEPHONE | MAIL NOTICE | ISSUED | RESTORED | FINAL DELIVERY | DISC. ORDER NO. | AS OF
DATE TALKED WITH | DATE | REASONS | DATE | PAID | BAL.
ORDERED BY
MAIL PAY

CHARLES POE 127J
710 BROADWAY F
CAPE GIRARDEAU MO

ACCOUNTING STUB — SEPTEMBER 1, 1930
DATE | DEBIT | CREDIT | BAL.

Type of Subscriber's Bill Used by Southeast Missouri Telephone Co., Cape Girardeau, Mo., Which Is Devoid of Any Printed Codes or Words Designating the Class of the Revenue Billed.

MAKE CHECKS PAYABLE TO THE COMPANY

TO SOUTHEAST MISSOURI TELEPHONE CO., DR. SEPTEMBER 1, 1930

This Bill is now due and payable at the Company's office. If not paid by the 25th ensuing service will be denied. We do not employ collectors.

GEORGE W BALDWIN 1162W
26 S SPANISH F
CAPE GIRARDEAU MO

| | |
|---|---|
| EXCHANGE | 1 50 |
| ADV. — | 1 25 |
| OTHER — | 2 20 |
| TOLL — | 75 |
| BALANCE | 50 |
| | 6 20 DUE |

This bill covers exchange service from Sept. 1 to Sept. 30 inclusive and is computed by the code EXCHANGE.
Toll service to date, is computed by the code TOLL and is itemized on statement enclosed.
Directory Advertising covering the same period as the exchange service is computed by the code ADV.
Other charges and credits, designated by the code OTHER are explained fully on the statement enclosed.

**STUB**
RECEIPT ON THIS STUB IS NOT VALID
SOUTHEAST MISSOURI TELEPHONE COMPANY
SEPTEMBER 1, 1930

GEORGE W BALDWIN 1162W
26 S SPANISH F
CAPE GIRARDEAU MO

| DATE | PAID | BAL. | |
|---|---|---|---|
| | | | EXCHANGE 1 50 |
| | | | ADV. — 1 25 |
| | | | OTHER — 2 20 |
| | | | TOLL — 75 |
| | | | BALANCE 50 |
| | | | 6 20 DUE |

WHEN MAILING PLEASE RETURN THIS STUB WITH YOUR REMITTANCE

COMMERCIAL OFFICE STUB — SEPTEMBER 1, 1930
TELEPHONE | MAIL NOTICE | ISSUED | RESTORED | FINAL DELIVERY | DISC. ORDER NO. | AS OF
DATE TALKED WITH | DATE | REASONS | DATE | PAID | BAL.
ORDERED BY
MAIL PAY

GEORGE W BALDWIN 1162W
26 S SPANISH F
CAPE GIRARDEAU MO

| | |
|---|---|
| EXCHANGE | 1 50 |
| ADV. — | 1 25 |
| OTHER — | 2 20 |
| TOLL — | 75 |
| BALANCE | 50 |
| | 6 20 DUE |

ACCOUNTING STUB — SEPTEMBER 1, 1930
DATE | DEBIT | CREDIT | BAL.

Subscriber's Bill, As Made Up on Service Billing Machine, Showing the Various Charges. The Southeast Missouri Telephone Co., Cape Girardeau, Mo., Is Believed to Be the First Telephone Company in the United States to Adopt This Type of Bill, Which Gives All Charges, None of Which Is Written by Hand.

telephone number together makes it possible for the operator to forget about the telephone number until the following group is reached. This speeds up the operation.

When the billing for an exchange is completed, the toll statements are verified by checking the tickets against the completed statements by some one other than the operator. We have found that the accuracy as well as the speed attained by the operators is very pleasing. The maximum speed up to this time is 650 tickets per hour.

This method of toll billing eliminates the necessity of totaling the toll statements and verifying this total; an operation usually done by calculating machine operators. It also eliminates the necessity of obtaining a unit total for controlling record purposes.

The service biller is a nine bank, motor-driven machine with five selective registers. Each register is controlled by a bar on the left of the keyboard. These bars are labeled as follows: Exchange, Toll, Advertising, Other, and Balance. One register computes total of exchange service, another toll service, another advertising, another other charges and credits, and the fifth, balances.

The operation of this machine is different from the toll biller as there are more items to be posted to the subscriber's bill. The first step is to prepare the posting media. This consists of a card record of the subscriber which contains his exchange service and advertising; the toll statement, which is prepared on the toll billing machine; other charges and credits, which consists of service connection charges, move charges, fractional charges and credits, etc.

These items have been previously typewritten on a special statement called statement of other charges and credits. The balances are, of course, the unpaid stubs in file at the end of the month.

This posting media is arranged systomatically in a tray, specially made for this purpose and designed to fit the various forms. All these items are, of course, arranged in telephone number order.

The operator now inserts the bill for the first telephone number and looks at her posting media. The first item is the subscriber's card, and she sees that the exchange service for this number is $1.50. She strikes the exchange bar, puts the $1.50 in the keyboard, and presses the motor bar. The carriage moves to the left, printing the word "Exchange" with the figure $1.50 opposite it on all four stubs.

When the fourth stub is printed, the carriage automatically returns; and as it returns, the operator, seeing from her media that this telephone number also has advertising of $1.25, presses the bar labeled "Advertising" and puts $1.25 in the keyboard. This is done as the carriage is returning; as it comes to rest at the or-

iginal position, she again strikes the motor bar and the advertising is printed on the four stubs.

A good operator will keep the carriage moving continually until she has completed the bill. We will say that this telephone number also is billed with $2.20 other charges, 75 cents toll and 50 cents balance. The bill will appear as follows:

| | |
|---|---|
| Exchange | $1.50 |
| Adv. | 1.25 |
| Other | .75 |
| Toll | 2.20 |
| Balance | .50 |
| | $6.20 Due |

If the posting media showed that this telephone number owed only for exchange service and a balance, then the bill would appear as follows:

| | |
|---|---|
| Exchange | $1.50 |
| Balance | .50 |
| | $2.00 Due |

The point I am attempting to stress is this: Our bill is absolutely devoid of any printed codes or words designating the class of the revenue billed. This feature makes it possible to render the subscriber a bill that shows only the items for which he owes.

Our experience has been that the subscriber understands and appreciates a bill of this kind more than the old printed bill, which carried codes for items that most subscribers did not use, and that a majority of them did not even understand. We believe that we are the first telephone company in the United States to adopt this type of bill.

When the billing for a unit has been completed, the registers are cleared and a proof of billing is available. The machine has collected separate totals of exchange service, toll service, advertising, other charges and balances. These totals are used to prove advance charges on the controlling records.

Our bills average between two and three lines each, and our operator has billed as many as 225 bills in an hour.

Obviously the introduction of these new methods and machines have multiplied the productive power of our billing department, enabling us to produce more per unit of time, with a comparative reduction in the cost of production.

## Alaska Telephones New York City via Radio and Wire.

The first telephone conversation between Ketchikan, Alaska, and New York City took place on September 12, it has been announced by officials of the American Telephone & Telegraph Co. The call was originated by E. G. Morrissey, publisher of the Ketchikan Chronicle, who was on board the Yacht Belmont, of the British Columbia Telephone Co. which was in Ketchikan Harbor.

It was sent over a portable experimental station by radio telephony via the British Columbia Telephone Co. to Vancouver and by land lines to New York City. The message went over the A. T. & T. lines from the international border.

The call was received in New York by Jackson S. Elliott, assistant general manager of the Associated Press, and the connection was said to be clear and distinct. It is approximately 600 miles from Ketchikan to Vancouver and 3,400 miles from Vancouver to New York, making the total length of the hook-up about 4,000 miles.

On September 16 a call was put through from the Yacht Belmont, which was then off Prince Rupert, B. C., to Chicago, where James Hamilton, vice-president and general manager of the British Columbia Telephone Co. talked to the company's radio engineer and others.

These calls, which were some of a series made to different points, comprise interesting experiments showing the practicability of establishing communication with isolated parts of British Columbia. These experiments have been carried out by the British Columbia Telephone Co., with equipment supplied by the Northern Electric Co., Montreal, which has agreements with the American Telephone & Telegraph Co. for the use of its various patents.

## OUR NICHE IN LIFE

By Miss Anne Barnes,

*Traveling Chief Operator, Iowa Independent Telephone Association, Des Moines, Iowa*

We should always measure ourselves by our best experiences, never by our worst. I sometimes wonder if we do not learn more from experience than from any other source. Many a right lesson is caught rather than taught, through our human contacts.

In fact, our contacts with people in business—any business—will do more to help broaden us than any help we can give ourselves. Just being with people, either in business, socially, or meeting them through books, shapes our thoughts. Our thoughts shape our activities, and our activities shape our lives. And that is all that counts, after all.

Perhaps some of you are thinking, "There isn't anything in this little job of mine that will ever spell success for me in tall letters."

Burch Foraker, president of the Michigan Bell Telephone Co., says:

"In seeking for the answer as to what makes for leadership, I decided to do the work at my hand, to master it absolutely, to forget every job but my own. I was with the cable-splicing department; I decided to make myself the best man in that work that I possibly could. I wanted it said that I knew my job."

The reason that Mr. Foraker is now president of the Michigan Bell Telephone Co., is that he is a good builder—and he built as he went along.

We are all builders of our own future. The blocks with which we build are our present opportunities. Every opportunity improved, today, is a block laid true upon which the stability of our future will depend.

Not many people attain the full measure of success that Mr. Foraker has *earned* for himself. Some of us might, if we had his capability and perseverance. However, someone has said: "If we are a six-cylinder person we should hit on six cylinders; if we are a four-cylinder person, we should hit on four cylinders; and if we are a two-cylinder person, we should hit on two cylinders." That sounds like Henry Ford, doesn't it?

I am reminded of a story about a wee, misshapen man who stood on a very busy street corner selling papers; a most humble occupation, and yet Michael had customers who would have gone out of their way to get their morning papers from him. One of them was a judge, one a noted writer, and one a gay young broker. And, of course, there were many others, but the story had to do with these three.

How was it that Michael never handed out the "Times" to the judge, or the "World" to the other two men? And, how was it that the writer's paper was always folded editorial sheet out; the judge's was open at the market lists, and the gay young broker found his creased at the sporting sheet?

Is it a wonder that the three men felt that they had lost an old friend when they were told one morning that something had happened to Michael and he would never be at the old stand again? They must have missed his cheery "Good morning," and his service plus, for many a long day.

People like Michael, and you, and me have our particular niche in life that no one else can fill quite as we do. So let us be absolutely faithful, prompt, and dependable in the smallest service we render; and we will be of untold value to every man, woman and child with whom we have contact.

# Hazardous Electrical Plant Conditions

## Why Electrical Shocks Are Dangerous—Treatment for Reviving Persons Receiving Electrical Shocks—Conditions Which Permit Electrical Shocks to Workers and Others—Handling of Dangerous Wires to Avoid Accidents

By John A. Bracken,
*Instructor, Michigan Bell Telephone Co., Grand Rapids, Mich.*

There are many powerful forces in existence possessing natures which are unknown at the present time. Gravitation, magnetism and electricity are some of these forces. We are aware of their presence, because we see their effects in every-day life. The methods of handling them and the laws governing their action are becoming more familiar, although the existing agents themselves are intangible and invisible "somethings" whose precise natures are very obscure and unfamiliar.

Undoubtedly this is a reason why there seems to exist a natural fear of the latter of these forces—electricity—on the part of many, and a feeling that they are liable to be electrocuted at any moment while they are using electrical apparatus. Of course, their fear is unfounded in most cases; as a matter of fact more people have been drowned than have been electrocuted. This does not mean, however; that whenever water is used, there is a possibility of being drowned; and very few fear water because they have learned how to use it properly.

### Dangerous Electric Shock.

Since it is a well known fact in the telephone industry that electric shocks are sometimes very dangerous, the question often arises, and a difference of opinion is expressed, as to whether alternating current or direct current shocks, under certain conditions, are more dangerous.

Regardless of these opinions, it is well to bear in mind that a high-voltage, alternating current circuit or a high-voltage, direct current circuit should not be regarded as safe to handle, even when the current has been cut off, until the circuit has been grounded; that is, connected to the earth and thus practically discharged.

### Possibility of Receiving Shock.

The human body is considered a very good conductor of electricity, but relatively high voltages are required to force an electric current through it. To cause very great harm, electricity must pass through the entire body, which in cases of ordinary voltages used in telephone equipment operation is practically impossible.

Before one can receive a shock, he must make possible the flowing of an electric current through his body; that is, the body, or part of it, must form a part of a circuit through which current is passing. This may be brought about by touching the bare wires of an electric system, or by touching the terminals, or the frame of electrical equipment, while in close contact with the ground or with some conducting material connected with it.

### Symptoms of Electric Shock.

A person who has received a severe electric shock may become unconscious, and seemingly cease to breathe. The most pronounced symptoms of an electrical shock are (1) stoppage or weakening of the action of the nerves, (2) contraction and stiffening of the muscles, (3) stoppage or weakening of the heart. The contracting of the muscles is what prevents one from letting go after grasping a high voltage wire.

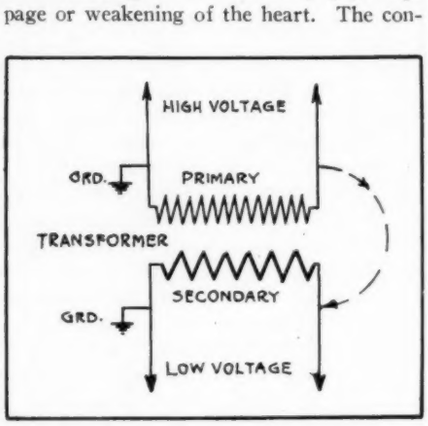


**Fig. 1. Condition Whereby Cross Between Primary and Secondary of Power Transformer Places High Voltage Current on the Low Voltage Circuit.**

None of these symptoms, however, necessarily indicates death. It is most likely that many persons have been given up for dead after an electric shock when the continuous application of artificial respiration, properly applied, might have restored them. It is for this reason that under no circumstances should remedial measures be abandoned until a physician has pronounced life extinct.

Cases are on record where people who have received severe electric shocks have been unconscious for more than 30 minutes without the slightest discernible heart action, and still have recovered because of the artificial respiration applied. The urgent necessity for prompt and persistent effort at resuscitation of a person receiving accidental electric shocks should not be undertaken in a half-hearted manner when it is appreciated that accidental shocks seldom result in absolute death, unless the person is left unaided for too long a time, or efforts at resuscitation are stopped too soon.

In the majority of instances the shock is only sufficient to suspend animation temporarily, due to the momentary and usually imperfect contact with the circuit, and also on account of the parts of the body submitted to the influence of the electric current. It must be understood also that the body under the conditions of accidental electric shocks does not always receive the full force of the electric current in the circuit, but only a partial or shunt current, which may represent a very small part of the main current flowing.

### Sources of Danger.

In the larger towns and cities where electric power is transmitted from some distant source, it is usually carried under a very high pressure on a pole line circuit before it is reduced for distribution purposes and is a source of danger in telephone line work. Then, too, there are usually electric street car systems which operate on high direct-current voltages.

In such cases, the car rails which are placed upon the ground, form one of the conductors of the circuit, just as does one of the wires running to a telephone. The other side of the circuit is the trolley wire. Every time one steps upon a street car rail, then, he comes in contact with one conductor of a high voltage circuit, but no electric current will flow through his body.

If it should happen that a telephone line or drop wire were accidentally in contact with the trolley wire, and it should be touched by the person standing on the car rail, the high voltage current might pass from the trolley to the telephone wire through the person's body to his feet to the rail, and he might receive a severe shock. This, however, would depend upon the completeness of the connections.

In a building there is often an arrangement somewhat similar to the street-car system in many respects, although it does not have the same appearance. Two wires run into it, one of which has probably been connected to the earth at some distant point. If so, the wire so connected may be considered in the same relation as the car rail and the other wire the trolley.

Assuming that this second wire is in contact with some high voltage circuit outside of the building, it will be seen, then, that if such should be the case, a person in close contact with the earth, or a conducting material running to it, might receive a dangerous shock if he should take hold of, or come in contact with, any piece of electrical apparatus which happened to be con-

nected by accident with the ungrounded wire.

Another source of danger from electric wires is that created by poorly-insulated power and light circuit transformers by the high voltage winding coming into contact with the low voltage winding in two places. The high voltage alternating current then enters the low voltage circuit, and thereby creates a hazard to property and to life.

Such occurrences are fortunately rare. How they may occur can be seen from Fig. 1. Here one power circuit lead, carrying high voltage current may have a short circuit to earth while at the same time the low voltage side is also grounded. If the high voltage current travels in the direction of the arrow, and a cross between the primary and secondary of the transformer is present, the high voltage current enters directly into the low voltage circuit; and it may possibly end with fatal or partially fatal results to some person, due to receiving a severe shock.

**Handling Dangerous Wires.**

Dangerous wires may often be handled without inconvenience if the following precautions are observed.

(1) Do not touch or handle the wires while standing on the ground, or while in contact with any iron work, gas or water pipe, stone, or brick work unless the hands are covered with rubber gloves.

(2) If it is at any time necessary to stand on the ground or any surface not insulated from the ground while handling dangerous wires or apparatus, rubber boots, an Indian rubber mat, or insulated stool should be used.

(3) In moving telephone wires, hanging on or lying over electric power or light wires, lamps or fixtures, a dry hand line should be used.

(4) Electric wires or apparatus should never be handled with both hands at once when this can be avoided. If it is necessary to do so, one should be sure that no current is present, or that the hands are protected by rubber gloves or other equally suitable insulation.

(5) When handling line wires, it is best to treat each and every wire as if it carried a dangerous electric current, and care should be taken to avoid making contact between two or more wires at the same time.

(6) In all telephone work, the line and other conductors, however well insulated, should always be handled as though bare, to the end that under no conditions, existing or likely to exist, can a ground or short-circuit occur between a power circuit and a telephone circuit while working on the telephone circuits.

It is well for all in the telephone industry to know and recognize the fact that electrical accidents are possible, and to take particular pains to apply every known precaution to avoid any chance of bringing them about.

## Addition to Company's Warehouse and Garage in Lincoln, Neb.

"The constantly increasing demand for telephone service and facilities has made necessary the placing of an addition to the company's warehouse and garage," J. H. Agee, general manager of the Lincoln Telephone & Telegraph Co., Lincoln, Neb., stated recently. The new addition is 150 feet long and 50 feet wide, two stories high. This addition will add a total of 15,000 square feet to the present structure. The ground floor of the addition will allow for doubling their auto-housing capacity.

The machine shop will be enlarged and equipped with the latest facilities for taking care of the company's cars and trucks. A blacksmith shop will be included as a part of the new shop as well as a dust-proof paint room for finishing the company's automobiles.

This general expansion program will materially increase the storage capacity. The present plan is to house the general supply and construction departments on the second floor of the new addition. Considerable thought and attention have been given by the management to make these offices modern in every detail.

According to the plans, modern and sanitary toilet facilities will be provided as well as rest and recreation rooms for men and women employes. With the supply and construction departments occupying these quarters in the new addition, it will provide additional floor space in the general offices to care for the company's increasing needs of other departments in the building. The new addition is of fireproof construction, faced with brick which will harmonize with the present structure.

View of Warehouse and Garage of Lincoln Telephone & Telegraph Co., Lincoln, Neb., Showing Construction Work in Progress on Addition to It.

## Rate for Short-Period Transatlantic Service on Monthly Basis.

The American Telephone & Telegraph Co. is offering a short-period telephone service between the United States and Great Britain from 6 p. m. to 7 a. m., New York time.

The new service contemplates daily use in periods of five minutes on no less than a monthly contract basis and provides a substantial reduction compared with service at regular rates. For instance, a telephone call from New York to London now costs $30 for the first three minutes and $10 for every additional minute, making $50 for the five-minute call. The new contract rate calls for a $15 charge for the first three minutes and $5 for each additional minute, or $25 for the five-minute call.

Contracts can be made for longer periods on the same five minute basis. The company made the arrangement with the British Post Office. It covers every part of Great Britain except southern Ireland.

## Committee Working on Program for Independent Pioneers.

The committee in charge of the annual luncheon and entertainment of the Independent Pioneer Telephone Association of the United States has arrangements well under way for this annual event, having already held several meetings. This luncheon and entertainment of the Independent pioneers comprises the big social event during the convention of the United States Independent Telephone Association. It will be held on Thursday, October 16, at Hotel Stevens, Chicago.

The committee in charge has practically the same personnel as in former years, and functions with excellent results as those who have attended the pioneers' meetings gladly testify. Each year this annual event of the Independent pioneers has grown in popularity and enjoyment, and the committee intends that this year's event will be more enjoyable than previous affairs.

## Old Telephone Pole Line Still Standing in Northern California.

In the northern California country, made famous by the gold rush of "forty-niners," there still stand the original square-hewn poles and heavy single wire of one of the first long distance telephone lines constructed west of the Mississippi river.

This line was built in the late '70's and extended from French Corral to Graniteville and Milton. It has been years since the line was used, yet it stands intact, as though waiting for its former users to return and again take up where they left off their activities.

# Mitigation of Damage From Electrolysis

## Various Methods of Preventing Cable Damage From Electrolysis, Which Is Usually Result of Stray Current From Street Railway Systems—Paper Presented at Convention of Pennsylvania State Telephone & Traffic Association

By Daniel Seitz,
*Superintendent, Line and Cable, York Telephone Co., York, Pa.,*

Electrolysis is known to exist in many metallic structures, especially those of underground systems such as lead cables, water and gas pipes. It is also a known fact that nearly all such electrolysis or corrosion is caused by stray current from street railway systems finding a path through the earth to these cables and pipes and again leaving them at some other point and carrying with it a part of the lead sheath or pipe.

There are several ways of eliminating the damage caused by this stray current:

First, if the voltage drop on the negative return of the street railway system is reduced to a minimum, it will have a tendency to carry this current back to the negative bus bar direct, with the result that less current will leak into the earth and find its way to cables and pipes along the negative feeder return system where the voltage drop is high.

It is generally found that the wire area in the railway return system is too small. Cost enters into the design of a street railway return system and usually is the reason for this condition.

Second, a drainage system may be employed. It consists of a wire of a suitable size connected to the cable sheaths or pipes where current is found to be leaving them, which is carried back to the negative bus bar.

In some cases this drain is connected to the negative street railway return at some point distant from the generating station. This practice is satisfactory where the voltage drop on the return is low enough to insure the carrying of the current from the cables and pipes. Wherever possible it is more desirable to have the drain wire connected to the negative bus bar.

These drains should be fused near the point of connection to the cable sheath. The fuse capacity can best be determined by measuring the intensity of current discharged from cable. An alarm circuit should be connected to these fuses and a buzzer or lamp should be placed in a central office or point where, should a fuse open, it will notify the person in charge.

This drain method is an ideal remedy for any one structure, but when a drainage system is applied to any other structure and it happens to return more current than the first, then the first structure is again in danger of discharge. If such methods are adopted by more than one cable or pipe-owning company, the results may be competitive; and where one structure only is drained, it places all others in the same locality liable to discharge to the drained one.

Third: Surface insulating of cables and pipes with paint or other coating. This has never been found entirely satisfactory.

Before deciding on any method of mitigation it is important that the following information be secured: Cause of damage, source of electric current, factors in railway systems which contribute electrolysis, and factors relating to cable and pipe systems which also contribute to electrolysis. This information can be secured by measurements that can be made under competent supervision by anyone familiar with electrical measuring instruments.

Periodic short-time tests with indicating instruments are in many cases useful in laying plans for a general survey. Wherever possible it is desirable to use 24-hour recording instruments, since in this way readings may be taken over a much longer period, making a permanent record and entirely eliminating the personal element. Such readings can usually be made over cable pairs from central offices.

Voltage readings of the current flow along the affected structure will result in obtaining much desired information, but will not show quantitive measurements, even roughly approximate, and does not indicate the rate at which a structure may be deteriorating. In other words, a very low positive voltage reading is no indication that the corrosive effect is in direct proportion and that it will do no harm.

The rate of corrosion at any given point can only be determined by measuring the intensity of the current discharged from the structure to the earth. It is evident then that a mere voltage test does not show the seriousness of an electrolysis condition.

After all the necessary measurements have been made, they should be carefully platted on maps showing the street railway system and cable plant.

The great value of all underground structures makes it necessary that these measurements be intelligently interpreted by a competent engineer and the remedy best suited be applied.

Cooperation among utilities operating in the same locality is recommended by some. However, the cable-owning companies are usually better situated to make tests and apply remedies independently and where the cooperation of the street railway company is impossible to obtain. A drainage system applied to the cable system is very satisfactory if designed properly.

Some cable and pipe failures, which apparently seem to be caused by electrolysis, are due to soil condition, self-corrosion, etc., although, as was mentioned in the beginning, nearly all actual electrolysis conditions are caused by stray current from street railway systems.

In conclusion, it would seem that the greatest amount of good can be done by placing adequate negative returns, instead of trying to prevent current flow to the cables; or when it is found to exist, to provide an exit with as little injury to the cables as possible. This would place the burden of expense where it rightfully belongs, although all new construction should be planned insofar as possible to avoid unnecessary hazard.

### SAFETY DOCTRINES.

By John A. Bracken.

**Progressive Activity.**

**Science is playing a greater part in telephone operation at present than ever before. Owing to this, telephone systems of today are converted into a vast laboratory in which every phase of construction, operation, and maintenance is being studied to bring about greater efficiency, economy and service.**

**Outside plant and central office equipment have been tremendously improved, circuit operating speeds have been increased, subscriber station apparatus made more convenient, and countless other improvements made.**

**Progress has been made on every hand, with the result that the public is receiving the best and most rapid communication service in history.**

**This same spirit of progressive activity should also be applied with equal vigor to the practice of safety and prevention of accidents as well.**

# Here and There in Telephone Work

## A Ferry Lane Through Cable Lead During High Water.

By C. B. Kugelman,

*Plant Superintendent, Portsmouth Telephone Co., Portsmouth, Ohio.*

From time immemorable, one of the problems of the people living west of Portsmouth, Ohio, has been adequate transportation to the city during high-water periods, which have been rather frequent each winter and spring with the exception of the last one. Prior to the introduction of the automobile the country people patronizing the city consisted mainly of farmers, gardeners and dairymen who could, during high-water periods, get along very nicely with skiff or johnboat ferries, crossing the Scioto bottoms.

Recent years have seen the immediate rural vicinity population increase from 1,600 to 4,200, the wage earners of which work in the mills and factories of Portsmouth and must cross the low ground at least twice a day. The A. and P. highway, federal route 52, also crosses the territory, being at times the best available route west as roads north and northwest are water blocked with no ferry facility.

All these conditions considered, it was up to the county officials to provide a ferry which could handle automobiles as well as foot passengers. The one thing in the way was the joint pole line, carrying power wires and telephone cable, being too low to allow passage of a steam ferry which would have to cross what is known as the towpath. This is a road elevated above

**High Water on Highway Near Portsmouth, Ohio, Showing Power Lead and Telephone Cable Below It.**

**Two 60-Ft. Poles Raised Power Wires Above Water for Ferry Passage During High Water. Telephone Cable Placed Underground Between These Two Poles.**

the bottoms to be clear of water up to a 45-foot stage in the Ohio river, which causes the Scioto to back up and spread over the low ground and road, stopping traffic.

The line is built of 35- and 45-foot poles, amply high for their purpose but not high enough to allow of the cable being raised and properly clearing the power wires. One of the photographs shows the high end of the road and lead during a high-water period. Water above the fence shuts the road completely, making a ferry necessary.

Measurements showed that two 60-foot poles would be necessary for power wire clearance. Poles were placed and the power wires changed. We operators of the telephone cable decided our best bet would be to place one span of cable underground—that is, to dip between the two high poles. This was done, resulting in the cable being carried down and up the poles through galvanized pipe risers, drift protectors, with four-inch sewer tile protection between poles.

There will be no chance of a washout as the dip is located where road wall causes sediment to settle. The cable will no doubt have much more dirt over it in two or three years than at present. The other photograph shows the manner in which the work was done. A section of fence each side of the road is removable, which will allow a free passage of at least 40 feet in width for the ferry.

If one sees this road at present, he would not think this work necessary, but several times in the past it has been possible to stand or even sit in an ordinary skiff and reach the cable.

## Carrier Current System Installed for Short Distance Use.

The Lincoln Telephone & Telegraph Co., Lincoln, Neb., has completed the installation of its first type "D" carrier current system, which provides additional circuits for its increasing business between Lincoln and Omaha. The carrier system has been in use by telephone companies for several years, but it has only been in recent months that the principle has been made applicable to short distances, where before it was not economically usable.

The new type of carrier current system is known as the flivver system, for obvious reasons, and can now be used economically for as short a circuit as 50 miles. This system eliminates the cost of stringing additional wires since it is possible to permit a second conversation over one pair of wires without interference between the two conversations. This is accomplished by giving each a different rate of speed of movement by supplying different frequencies of current.

Five circuits have been established. Three are operated over the route by way of Plattsmouth and two over that running through Wahoo. The west-to-east transmission takes place on a carrier frequency of 6,780 cycles per second and the east-to-west on a frequency of 10,300. Signalling is made by throwing a 1,000-cycle current into the system which passes to the line on the carrier wave.

At each end, the terminal apparatus is connected to jacks before the long distance operators so that they may make connections with subscriber circuits. By this means the operator is not informed as to whether she is using the carrier or ordinary system circuits.

As telephone men know, communication is made possible by converting the voices of the users of a circuit into electrical impulses at the subscriber's transmitter, so at the terminal board there are two such currents from the two speakers.

One is impelled over the line in the ordinary way, while to secure transmission on the other it is necessary to change the frequency of the voice currents from their normal value to some higher value, to transmit them in this condition, and then at the receiving terminal to separate them from each other and reduce each to its original frequency.

The company engineers explain that in ordinary telephone circuits the frequency of the currents is equal to the pitches of

components in the voice of the speaker. Thus, each component of the voice is represented by an electric current having the same frequency as the pitch of the particular component. In the carrier method each voice pitch is represented by an electric current of much higher frequencies that are sent over the line.

A range of high frequencies is assigned to each speaker so that all the pitches of his voice are represented by frequencies in this range. At the receiving end, the filters separate from one another the different high frequency ranges corresponding to the various distant speakers. They also route each high frequency range toward the correct listener. Thus they may be said to act as traffic cops of the system, controlling the flow of the electrical current traffic through the complicated circuits. At the transmitting end, vacuum tubes and filters are used to produce the carrier currents, and also at the receiving end, the tubes there reproducing the original voice message from the receiver carrier currents.

The company plans to put in the carrier circuit system, between Lincoln and Hastings, another heavy toll channel, during the next year.

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## "The Telapartment Building"—A Company-Owned Building.

By J. F. Browne,
*Plant Superintendent, Columbia Telephone Co., Columbia, Pa.*

One of the problems of the small exchange owner is, "How to sell the space in the company-owned building, which is not needed for the telephone business."

**The Telapartment Building of the Columbia Telephone Co. in Mt. Joy, Pa., Compares Very Favorably with Surrounding Buildings.**

Most companies use this space for living quarters for the manager or agent, or for some office or business purposes. But where the location of the building is not suitable, or the demand for business space is not great enough it may be turned into two or more small apartments, the revenue from which will help keep the company-owned building in the good investment class.

Although quite popular in the larger cities, apartment buildings have never fully established themselves as necessary parts of the small towns, and for this reason have never attracted the more serious attention of telephone men. However, as the small towns demand more and more of the conveniences of the cities, it is reasonable to expect that in the future the apartment building will be in demand in most small communities; and it should not be overlooked as a market for the "space" which the telephone company has for sale.

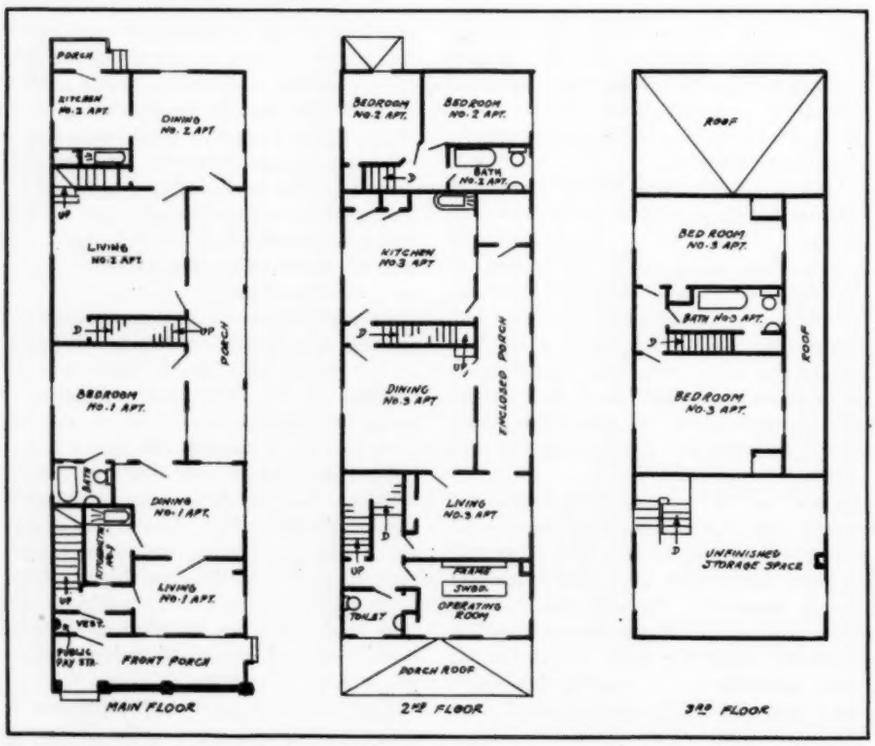
If the company owns or can secure at a reasonable price a large, centrally-located residence, it would be well to consider the practicability of remodeling it into a "Telapartment Building." Consulting with an architect or a carpenter-contractor will be a great help in deciding this and the best changes to be made in the building.

If a sketch or drawing is made of the present arrangement of the building, it will facilitate the proper locating of the apartment and central office rooms. As the building is to be used primarily for the telephone business, the central office should be located, if possible, in the front rooms on the main or second floors, where it will be readily accessible to employes and to the public.

In considering the apartment part of the building, the number, size and location of the rooms will depend upon the present arrangement of each particular building. However, while the tendency is to make apartments smaller and smaller, it must be remembered that they should be "complete houses in themselves," with private bathrooms, separate telephone, radio and door-opener wires and individual gas, electric and water meters.

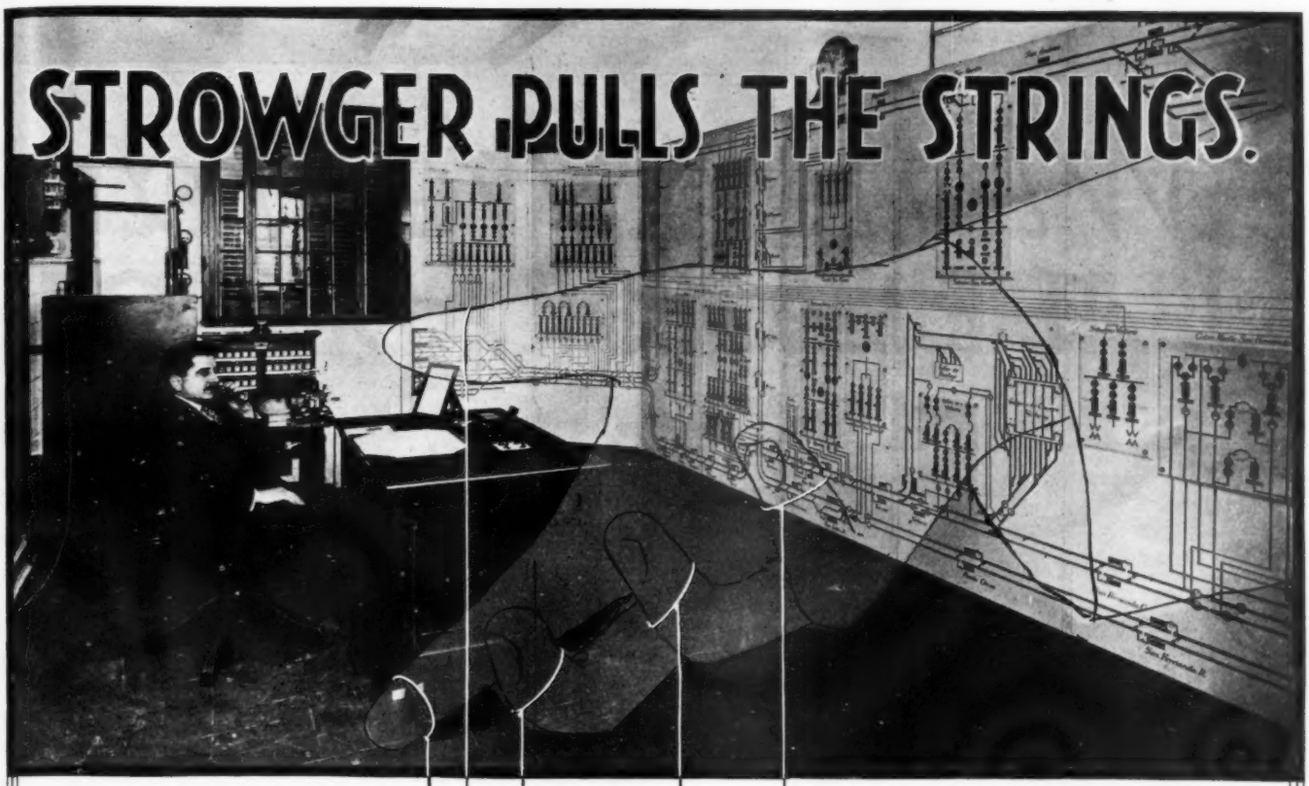
The cost for the work may be ascertained by submitting a plan, similar to the one shown on this page, to the various carpenter, painting, electrical and plumbing contractors for their bids or estimates for the jobs. Of course, the original cost of the building, the remodeling cost, the operating and overhead expenses, the amount allowed for the central office rent, and the number and size of the rooms, will decide the monthly rental to be charged for the apartments.

If the Telapartment building is made thoroughly clean, modern and safe to live in, it should solve the "space for sale" problem of some small companies, and be a credit and boost for the telephone company and the town it is in.




**Floor Plans of the Telapartment Building at Mt. Joy, Pa., Showing Arrangement of Apartment and Central Office Rooms.**

# STROWGER PULLS THE STRINGS.



*ABOVE — Supervisory Control Room with illuminated Indicating Board at Olivos Sub-station, Central Argentine Railway.*

*BELOW RIGHT—Interior View of Nunez Unattended Sub-station, Central Argentine Railway.*

*BELOW LEFT—20,000 Volt Switchgear in Nunez Unattended Sub-station, Central Argentine Railway.*

The potentialities of the Strowger step-by-step Switching principle and its modern applications are well nigh inexhaustible.

In the Supervisory Control of remote power stations from a central point the Strowger Rotary Lineswitch and Strowger Relays bring distant plants and their associated switchgear literally under the finger-tips of the responsible operator.

The Scottish Section of the gigantic "Grid" Scheme of the British Electricity Commissioners will incorporate Strowger Supervisory Equipment.

Other typical installations carried out in collaboration with Metropolitan-Vickers Electrical Company serve the Bombay, Baroda and Central Indian Railway, the Central Argentine Railway, London County Council, Manchester Corporation, and many others.

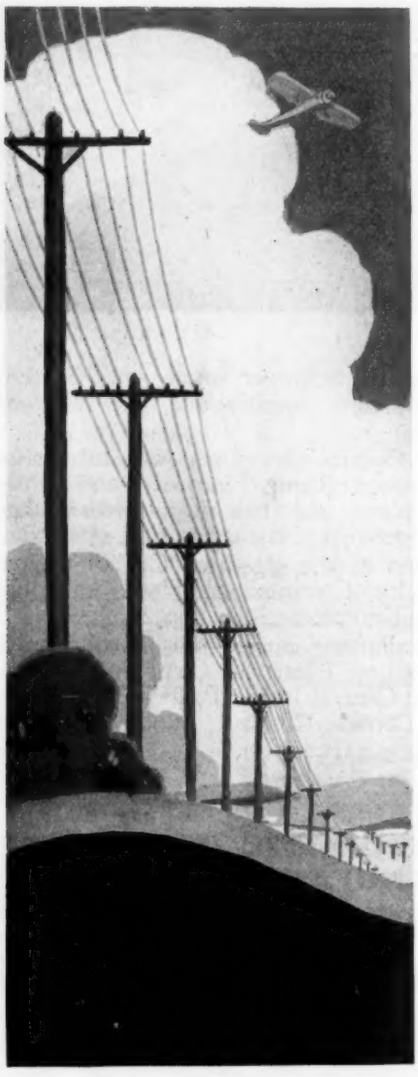
**AUTOMATIC TELEPHONE MANUFACTURING CO., Ltd.**

**Strowger Works, Liverpool, England**

**ASSOCIATED COMPANY: International Automatic Telephone Co., Ltd., London**

# Wisner, Nebrask

## THE LATEST ADDITION T



THE Cuming County Telephone Comp ently placed orders with Automatic Electric owge Automatic Dial equipment and 800 telep isner Nebraska. A substantial number of the Monc phones.

The decision to adopt Strowger operation for mad by the officials of the Cuming County Tel pan only after they had made a thorough investig dail working of this equipment in cities where en i operation for many years. As a result of th m fo dial service which was encountered in the t ers these localities as well as in the telephone o diat installation of this equipment was recommen er.

The rapidly growing list of small towns be und Strowger Dial operation attests the profit- ues this equipment for such exchanges. More an phon companies are proving for themselves that eson "small exchange problem" is met with the hi actio both to themselves and to the telephone u ans Strowger Dial apparatus. Designed, manufact stall by Automatic Electric Inc., Chicago, U. S. A.

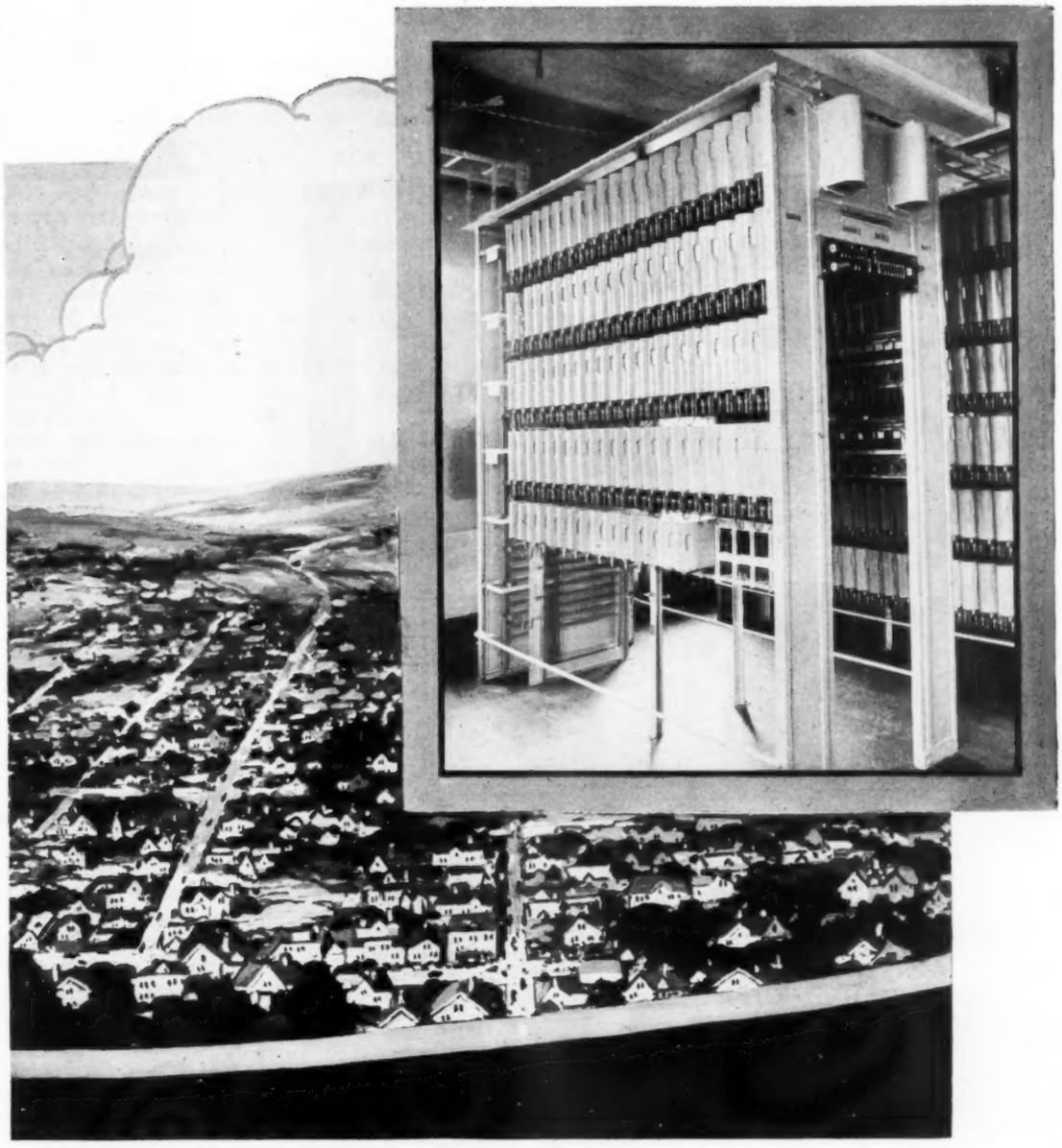
STROWGER AUTOMATIC DIAL SYSTEMS

GENERAL EXPORT DISTRIBUTORS
The Automatic Electric Company, Ltd., Chicago

*In Canada* . . . Independent Sales and Engineering Co., Ltd., Vancouver
*In Australasia* . . . Automatic Telephones, Ltd., Sydn
*In Japan* . . . Automatic Telephones Ltd. of Japan, Tok

When writing to Automatic Electric Inc., please mention TELEPHONY.

# THE STROWGER ROLL CALL



**Automatic Electric Inc.**

*Manufacturers of*

AUTOMATIC DIAL TELEPHONE AND SIGNALING SYSTEMS

General Offices: 1033 West Van Buren Street, Chicago, U. S. A.

*Sales and Service Offices in All Principal Cities*

ASSOCIATED COMPANIES

American Electric Company, Inc. . . . Chicago
International Automatic Telephone Co., Ltd., London
Automatic Telephone Manufacturing Co., Ltd., Liverpool
The New Antwerp Telephone and Electrical Works . . . . . Antwerp

When writing to Automatic Electric Inc., please mention TELEPHONY.

# Small Town Adopts Modern Service

## History of New Rockford, N. D., and Its Development—Type of Telephone Service Rendered by Dakota Public Service Co. and Growth of Company's Subscribers—Description of New Equipment Installed by Dakota Company

By Jay Houghtaling,

*Representative, Kellogg Switchboard & Supply Co., Chicago.*

The Dakota Public Service Co. cut over its new telephone system at New Rockford, N. D., on April 4. The cut-over was the climax to six months of extensive remodeling of the entire system. New Rockford now rightfully boasts of having one of the finest telephone exchanges in the Northwest. The cut-over was made without interfering in any way with the service of the company's patrons, and the exchange is now working in splendid shape.

**Kellogg Two-Position Universal Switchboard Similar to That Recently Placed in Service in New Rockford, N. D.**

New Rockford, N. D., with a population of over 2,000, is the county seat of Eddy County and is situated on the James river, 30 miles southwest of Devils Lake. The town is located in the midst of a very prosperous farming country and supports one good sized flour mill and a number of creameries. Both the Great Northern and Northern Pacific railroads pass through New Rockford.

Back in 1902, when New Rockford was still a part of New Rockford independent township, J. W. Noxon and Sam Oglesby of Valley City went before the township supervisors to secure permission to build a telephone plant. After these two men secured the necessary permission they installed the first telephone system for New Rockford. The first manager was William Brueske, who was later succeeded by Albert Fairbanks.

Starting with only a permit to build an exchange, Messrs. Noxon and Oglesby were successful in obtaining 113 local subscribers and four rural lines with about 80 subscribers by the end of the first two years.

Henry W. Wilson purchased the New Rockford exchange in 1904. The following year he installed a new switchboard and moved the office to more convenient quarters in the Maddox block where it remained until 1909 when the present telephone building was erected. The telephone company continued to increase the number of subscribers during the 26 years since Mr. Wilson remained in charge.

In June, 1928, the exchange was sold to the Dakota Public Service Co. There are now over 400 local subscribers and 14 rural lines with approximately 240 rural subscribers.

Anticipating future requirements for New Rockford, the Dakota Public Service Co. has recently completed the rebuilding of the entire outside plant, replacing the old open-wire leads with a modern cable distribution system. Arrangements were made with the Otter Tail Power Co. to place the telephone distribution system on its poles, resulting in a neater, more efficient, and a more economical plant. The telephone building was also remodeled to better handle the new common battery service.

Representatives of the telephone company interviewed practically every subscriber in order to ascertain the type of service desired. The purpose of this canvass was to determine how favorable the reaction would be for common battery service. The city council, the Kiwanis Club, and an almost unanimous expression from the subscribers showed strong approval of the new type of service.

With this information, and knowing that its subscribers would welcome common battery service, the Dakota Public Service Co. ordered a new Kellogg two-position universal switchboard and telephones from the Kellogg Switchboard & Supply Co. of Chicago which were to be delivered to the New Rockford exchange.

The Kellogg switchboard recently installed in New Rockford represents the company's latest and most successful common battery board for this size of an exchange. Features, new to New Rockford subscribers, incorporated in the board include a prompt answer, a fast connection, an uninterrupted conversation, and efficient operation of ringing. The board is equipped with line lamp distribution, automatic machine ringing and revertive ringing tone.

The switchboard equipment is housed in a beautiful cabinet of quarter-sawed oak, having an ultimate capacity of 1,200 common battery local lines. It is equipped at present for 400 common battery local lines, and wired for 60 and equipped with 30 magneto rural and toll lines.

Frank Milhollan, President and General Manager of the Central West Public Service Co., Omaha, Neb.

The Dakota Public Service Co. is a subsidiary of the Central West Public Service Co., Omaha, Neb., of which Frank Milhollan is president and F. M. Parsons, general plant superintendent.

The company furnishes telephone service in a large number of towns in North Dakota, including Devils Lake, Cando, Langdon, Cabalier, Neche, Osnabrook, Bathgate, Hamilton, Milton, Fordville, Pisek, Forest River, Inkster, Luverne, Pillsbury, Hannaford, Sutton, Dazey, Fingal, Towner, Maxbass, Westhope, Antler, Barton and Bantry. It also operates about 500 miles of rural lines in the northwestern part of the state with connections at Kenmare and Bowbells.

While one of the youngest operating utilities in North Dakota, the company has surrounded itself with an operating personnel which is constantly on the alert to furnish adequate service at reasonable rates. The construction program, practically completed in New Rockford, is only a part of the development work to be undertaken by this company.

Devils Lake, N. D., is the district headquarters for a large portion of the company's property in that state. The exchange at Devils Lake operates a six-position Kellogg service switchboard. W. A. Martin is district manager of the company and a resident of the state for many years. He operated the telephone and electric properties at Cando and other points.

G. R. Kennedy, the local manager at New Rockford, is a telephone man of several years' experience. With the aid of his able assistants he is making it his business to take care of the wants and desires of the people of New Rockford.

Other employes of the Dakota company who are devoting their entire time to furnishing efficient and profitable service to New Rockford subscribers are Miss Leona Jahnke, Katherine Boyle, Mildred Litlethun, Clara Withe and Vida Wilson.

F. M. Parsons, General Plant Superintendent of the Central West Public Service Co., Omaha, Neb.

While the physical cut-over of the new service was made on April 4, the formal opening was held April 10, and many of the town's citizens availed themselves of the opportunity to view the new plant. The public was invited to inspect the new equipment and especially to watch the actual operations incident to the completing of local and long distance calls.

# Personal Notes from the Field

**John W. Miller,** former owner and manager of the Mesquite Telephone Co., operating exchanges at Mesquite and Elam, Texas, was recently made vice-president and treasurer of the Gulf States Telephone Co., having been a director for some time.

Mr. Miller, prior to entering the telephone business, was a superintendent of operations on the Isthmus of Tehuantepec in Old Mexico with the Compania Mexiana de Petroleo "El Aguila," an oil company, subsidiary to Royal Dutch Shell Oil Co. He left that company when a revolution took place and he considered it safer in the United States. He then went into the independent oil development in Houston, Texas.

Intending to enter the telephone business from the financial end, he acquired the Mesquite, Texas, exchange to familiarize himself with the logical developments that a telephone man should know. He acquired the information by doing everything, from digging holes and scrubbing floors to the making of estimates for a reconstruction program.

Mr. Miller has taken up his new duties with the Gulf States Telephone Co. at Tyler, Texas, where he is not only taking care of the finances, but is actively representing the ownership, and helping to form and carry out the policies of the company.

John W. Miller, Recently Elected Vice-President of Gulf States Telephone Co., Tyler, Texas, in Charge of Finances.

During the district meeting of the Texas Independent Telephone Association held at Tyler on September 18 and 19, Mr. Miller met many telephone people of that district.

**John W. Byrne,** of Brooksville, Ky., formerly district manager of the Kentucky State Telephone Co., is now state manager for the company, which is a subsidiary of the Municipal Telephone & Utilities Co., of Chicago. Mr. Byrne was connected for many years with the former Bracken County Telephone Co. which was absorbed by the Kentucky State Telephone Co.

**W. H. MacIlwain** is general sales manager of the Public Utility Investment Co. and its affiliated companies, Salina, Kans. Mr. MacIlwain will direct the sales of securities for the Jones group of public utilities which includes the Western Power, Light and Telephone Co.

Mr. MacIlwain's experience was gained

through work with such companies as Henry L. Doherty & Co., where he was connected with securities sales work; the Wright-Slade Co., member of the New York Stock Exchange, where he learned the intricacies of stock exchange operation, at the same time gaining valuable experience in the wholesaling and retailing of securities; and with P. H. Whiting & Co., investment bankers.

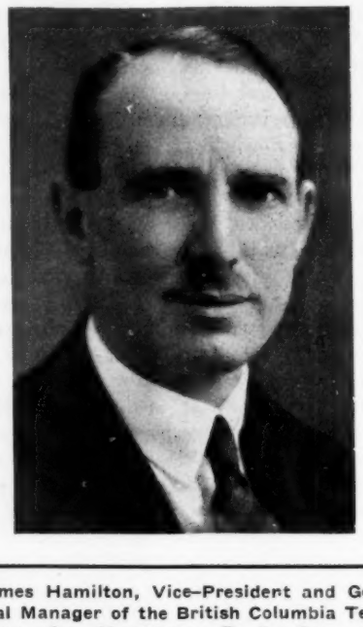
**James Hamilton,** Vancouver, B. C., vice-president and general manager of the British Columbia Telephone Co., was a visitor in Chicago this week. With Mrs. Hamilton he had attended the annual convention of the Canadian Telephone Association held at St. Andrew's New Brunswick. In returning to Vancouver, they stopped in several cities in the United States, including New York and Chicago, where Mr. Hamilton visited manufacturing plants and telephone exchanges.

In speaking of business, Mr. Hamilton expressed his opinion that the Northwest generally is not as greatly affected by the depression as are industrial centers in the United States. The British Columbia Telephone Co., he stated, has so far this year experienced a substantial growth.

He expressed himself as most optimistic in regard to the use of radio-telephony in conjunction with the wire lines of his company. While in Chicago, Mr. Hamilton received a call from his company's experimental radio boat which was lying off Prince Rupert, British Columbia. The call came by way of radio and the land lines of the British Columbia company and the American Telephone & Telegraph Co. and the conversation was unusually clear.

### Obituary.

**S. N. Ford,** president of the Mansfield Telephone Co., Mansfield, Ohio, since its organization in 1898, died on August 27, 1930, at his home in Mansfield.



**James Hamilton, Vice-President and General Manager of the British Columbia Telephone Co., Vancouver, B. C., Can., and President for the Current Year of the Canadian Telephone Association.**

Mr. Ford was born February 6, 1847, on a farm in Richland county, and acquired his early education in a log schoolhouse. Later on he took a course in the seminary at Lexington, Ohio.

Although quite young, he enlisted as a volunteer in the Civil War and was in active service under General Grant, in the operations around Petersburg and Richmond. When the war was over he continued his education at Lexington seminary.

At the age of 18 years, he entered upon the business career that afterwards proved so successful. In the fall of 1869, he started upon an independent career by purchasing a sash and lumber business in Mansfield. He began manufacturing lumber, sash, doors and blinds, and the business enjoyed a wonderful growth.

Mr. Ford always remained its chief executive officer and active in its control. He also engaged in the lumber business in Kentucky and in Michigan.

The Mansfield Telephone Co. of Mansfield, Ohio, was organized in 1898 with Mr. Ford as its president, which position he held until his death. The success of the company was largely due to his remarkable business judgment as well as extensive financial assistance.

Mr. Ford was an important factor in the development of other industries in Mansfield, among which are: The Mansfield Street Railway, Light & Power Co., the Humphryes Manufacturing Co., the Phoenix Electric Co., and the Merchants' & Manufacturers' Insurance Co. He was also active in the affairs of the Chamber of Commerce when it was first organized.

He was a member of the Masonic Lodge, Knights Templar, Knights of Pythias, and was prominent in the I. O. O. F. Lodge, in which he had filled every office. As a veteran of the Civil War, he was also a member of McLaughlin Post, G. A. R.

The death of Mr. Ford was not unexpected as he became ill a number of years ago, and only appeared in public occasionally after that. He conducted his business and cared for his many personal affairs from his home until a few weeks ago when his condition became serious. He passed away quietly Wednesday morning, August 27, at his home in Mansfield, Ohio.

# What the Commissions Are Doing

## Up-to-the-Minute News Regarding the Activities of State and Interstate Commissions, Courts and City Councils in Matters Concerning Telephone Companies—Summary of Commission Orders and Schedule of Telephone Hearings

### Tennessee Commission Asked to Order Reduced Rates.

Charging that the American Telephone & Telegraph Co. has exacted untrue, illegal and excessive sums from the Southern Bell Telephone & Telegraph Co. to reduce its net revenue, 11,271 citizens of Chattanooga have filed a petition with the Tennessee Railroad and Public Utilities Commission asking a 33 per cent reduction in telephone charges throughout the state and particularly in Chattanooga.

The petition, filed by George M. McCollum and Fred M. Williams, of Chattanooga, charges that the American Telephone & Telegraph Co. of New York, Western Electric Co. and Southern Bell Telephone & Telegraph Co. are, as a matter of fact, one company, but set up as separate corporations to evade the jurisdiction of the Tennessee Railroad and Public Utilities Commission and inflate valuations and operating costs.

Specific charges are that:

Lines, exchanges, stations and equipment are sold the Southern Bell Telephone & Telegraph Co. at a price greater than cost to make a profit and inflate fixed capital.

Excessive license fees are charged the Southern Bell company by the parent corporation to reduce net earnings.

Excessive charges are made for equipment, lines, etc., for the purpose of issuing itself additional capital which does not represent true value and that these transactions are concealed by untrue charges.

Financial reports have not been filed with railroad commission according to law.

The company has refused evidence and inspection of books to the complainants.

The company is making 12 per cent, an excessive amount, on the present fixed capital, greatly inflated over the actual value.

The petition requests that the telephone company be required to give an accounting to the commission of the exact earnings within Tennessee annually for the period since January 31, 1922, and also file sworn reports as prescribed by statute, showing operations and finances within Tennessee.

The petition stated that if the commis-

sion denies this petition for a reduction of rates in Chattanooga, then it is asked to treat it as a state-wide petition.

## Michigan Attorney General Seeks Reduction in Bell Rates.

A thorough investigation of the Michigan Bell Telephone Co. finances with a view to reducing telephone rates, particularly in Detroit, was initiated by Attorney General Wilber M. Brucker on September 6. In a letter to the Michigan Securities Commission, Mr. Brucker declared he had discovered evidence that the telephone company is camouflaging its earnings by keeping two sets of cost books—one set for the public and the other for its private use.

An investigation of this matter has been promised by the Interstate Commerce Commission, he says, adding that correction of the discrepancy should result in a saving to the public of $3,000,000 annually.

The telephone company has refused to open its secret set of books, the attorney general says, in asking the security commission to use its authority to compel the company to make them public. His information indicates the telephone company is now earning 8 per cent or more on its present investment, he says, and instead of the increase the company is asking a decrease may be advisable.

In conclusion, the letter makes the following recommendation to the securities commission:

"That the Michigan Public Utilities Commission immediately exercise its powers of investigation to the end that the commission itself and the attorney general be fully informed through an unrestricted disclosure of the present prevailing costs incurred and profits enjoyed by the Michigan Bell Telephone Co.;

That facilities be afforded the representatives of this office to make an investigation of the company's records, without restriction by them;

That particular attention be directed to the apparent policy of the company to figure depreciation expense one way and charge it to the public another way;

That the public utilities commission consider therefrom whether or not there are such changes in prices, values and revenues since the matter of rates was before the commission in 1925 to give probable indication that a thorough rate investigation at this time would be in the public interest, and that a cut in rates might be in order."

## Southern Indiana T. & T. Takes Rate Appeal to Federal Court.

Expected declines in gross revenues are given by the Southern Indiana Telephone & Telegraph Co., with main offices at Seymour, Ind., as reasons for higher rates. The company filed suit September 5 in the federal district court in Indianapolis for an order enjoining the Indiana Public Service Commission from interfering with the collection of increased charges to subscribers.

Need for additional revenues sought through the raise in rates, the brief sets out, is supported by the fact that holders of common stock have not received any dividends on their shares in five years. The common stockholders, it is asserted, have been compelled to pay assessments, all made last year, of $65,000 to meet interest and dividend charges. Loss of $5,000 a month is alleged to result from the old rate structure. It is sought to have the present rates declared null and void and confiscatory.

The Indiana commission by an order of August 8 last declined to act for the time being on rate increases asked last year and held the petition of the company in abeyance for ten months. At that time the commission said economic conditions in the southern part of the state were such that an increase could not be granted. At present the company has 35 exchanges in that section.

Returns on the proposed higher rates, according to the brief, would not be more than 4 per cent, even on the commission's valuations. On the company's valuation, the yield would be 3.42 per cent, it is said. Cost of reproduction of the property as figured by the company's engineers, is given as $1,889,299.

Net return on the property under existing schedules for 1929, it is said, was 1.5 per cent. That for the fiscal year ending June 30, last, is set out as .96 per cent. For this period, the brief states, the net revenues were not enough to pay the interest on the funded debt and cumulative dividends on the preferred stock.

## Certificate Issued Approving Transfer of Michigan Properties.

The Interstate Commerce Commission has approved the acquisition by the Michigan Bell Telephone Co. of the properties of the Thumb Telephone Co., upon the terms and for the consideration set forth in the application, after a recent hearing in Washington, D. C., and a certificate to that effect has been issued.

The Thumb Telephone Co. owns and operates an exchange at Port Sanilac, Mich., serving 182 subscribers. It also operates an exchange at Applegate, Mich., where it serves 39 subscribers. There are no service stations.

Within the past two years, the territory served by the Thumb company has developed into a summer resort and the demand for telephone service has greatly increased. The existing facilities are of an obsolete type and the Thumb company is unable to give commercial service. Not only extensive rehabilitation but much additional plant must be provided in order to meet the public demand for service.

The Thumb company is financially unable to make the investment necessary for these purposes and the proprietary interests desire to be relieved of responsibility for providing service. The Michigan Bell company proposes to establish standard service in the territory. As set forth in the order of the Michigan Public Utilities Commission, the rates to be charged by the Michigan Bell are to be somewhat higher than those now in effect.

An appraisal of the property by the Michigan Bell company's outside plant engineer finds the cost of reproducing the properties new to be $33,107, and less depreciation, $10,654. None of the property will be retired from service as useless. There will be no cost of unification. The Thumb company has been operating at a loss for a number of years. In 1929 it sustained a deficit of $418.79.

Under date of May 8, 1930, the applicants entered into an agreement providing for the sale of the Thumb company's physical property and other assets to the Michigan Bell company, free and clear of all liens and encumbrances for a sum, payable in cash, sufficient to cover certain indebtedness of the Thumb company amounting to approximately $4,000.

At the hearing, communications from officers of the communities affected and a number of representative telephone users were introduced into evidence, all favoring the proposed transfer of properties.

## Application for Property Transfer in Minnesota Approved.

On September 2, approval was given by the Minnesota Railroad & Warehouse Commission of the joint application filed by the Northwestern Light & Power Co. and the Central Iowa Telephone Co. for approval of the sale and transfer of the physical telephone property of the Northwestern company, of Bigelow, Minn., to the Central Iowa company.

The Northwestern company, a Delaware corporation, having its principal office at Cedar Rapids, Iowa, is the present owner of the property at Bigelow and the Central Iowa company of Cedar Rapids, Iowa, has contracted to purchase all of the telephone properties of the Northwestern Light & Power Co., including the telephone property at Bigelow, Minn., and will maintain an office at that point.

In the approval of the transfer of the property at Bigelow, no consideration was given to the value or price to be paid.

## Minnesota Property Transfer Approved by Commission.

The Minnesota Railroad & Warehouse Commission recently approved the application of the Eagle Valley Co-operative Telephone Association and the Eagle Valley Telephone Co. for authority to transfer all of the physical telephone properties of the Eagle Valley Co-operative Telephone Association to the Eagle Valley

Telephone Co., a recently-organized corporation.

It was stated that more than 65 per cent of the outstanding shareholders of the Eagle Valley Co-operative Telephone Association has agreed to sell and dispose of all its physical properties under terms and conditions set forth in the application.

The hearing was held at St. Paul on September 2 and the Minnesota commission found that the proposed transfer would be in the best interests of the public. In approving the application, the commission gave no consideration as to the value or price to be paid.

## Increased Rates Authorized When Circuits Are Made Metallic.

The Nebraska State Railway Commission has authorized the Union Telephone Co., of Carroll, to charge increased rates whenever it makes its exchange full metallic. The new rates are: Business, individual, $3.00 a month; residence, individual, $1.75; residence, two-party, $1.60; rural, $1.75; rural switching, 50 cents.

The company is one of a number in the northeastern part of Nebraska owned by E. C. Hunt, president of the Blair Telephone Co. It serves 374 subscribers of whom 116 receive city service, two farm service and 256 are switched.

The order of the commission changes, in one respect, the schedule of rates asked for by the company, because its members felt that the proper spread was not provided between rates for the various kinds of service.

Under the conditions they believe that the business one-party and residence one-party service can be rendered by the applicant for a monthly net rate of $3.00 and $1.75 respectively. This reduced the estimated revenue by $120. The commission says that this would not create a hardship for the applicant to overcome, inasmuch as a careful study of the expense statement submitted reveals the fact that the average per station expense for officers' salaries amounts to approximately $3.55 per year.

"This item of expense," says the commission, "is considerably above the average for the rest of the exchanges with which Mr. Hunt is connected, wherein we find the average to be $1.71 per station. A comparison with other well-managed companies indicates their expenses for this item to be less than half and as low as one-sixth of the amount $1.71 per station.

"The commission feels, in view of this comparison, that the expense for officers can well be decreased to an allowance sufficient to offset the loss in revenue due to the change in rate schedules as suggested. This would leave the amount being charged as officers' salaries considerably above the average."

Mr. Hunt said that a better grade of service could not be given unless numerous changes in the equipment are made. With this the commission agrees. This necessitated the investment of considerable additional capital, which the applicant was willing to make if allowed better rates.

The appraisal proffered was not acceptable to the commission, which sent its engineer to make a personal investigation. He found the units to be correct, but as his appraisal of the depreciated condition differed from that of the American Appraisal Co., it was taken as the basis. The property was found to be in a 76 per cent condition, and this gave it a value of $5,126, when salvage items are considered. To this is added $2,275 as the value of additions and betterments, leaving $7,401 as the value of the new investment.

The revenue for the year is estimated at $5,257 and the expenses, $4,495. This the commission believes, when the salary adjustment is made, will give the company a fair return on the money invested.

## Nebraska Commission Appoints Secretary Until After Election.

Miss Mary Sheehan, who has been assistant secretary of the Nebraska State Railway Commission, has been named secretary to serve until November 5, which is after the election. The attorney general advised the board that it was necessary to have a secretary at all times in order to transact business, and Miss Sheehan, who was acting in that capacity only, was named for the term stated. She has been one of the most faithful and capable of the board's employes.

The board, on advice of the attorney general, rescinded its action naming Commissioner John H. Miller as vice-chairman, the law not recognizing any such office, although the experience of the commission has made it necessary in the past.

## Nebraska Commission Has Case of Highway Priority Rights.

The Nebraska State Railway Commission has ordered briefs to be filed by parties to a controversy that brings into issue the question of the priority of rights of telephone lines to routes on highways that they occupied before the power companies came along with high-tension lines.

The Nebraska Power Co. had asked the commission to be allowed to build a transmission line for a distance of 1¼ miles on the south side of the main highway west of Eagle. Objection was entered by the Eagle Telephone Co., which has a pole line on the side of the highway that the power company proposes to use, and it claimed a vested right in that location by reason of long occupancy.

It introduced testimony to show that it could not continue to operate the line on the same side of the road as a heavy duty transmission line, and that there was no room for it on the north side. An offer was made by the Lincoln Telephone & Telegraph Co. to rent space on its pole line, which is located on the north side of the road, but the Eagle company representatives insisted this would not be satisfactory because their lines would be subject to removal at the option of the Lincoln company.

In any event, the Eagle company would be compelled to substitute metallic, or two-wire service, for the single-wire circuit now in place. It claimed that it was unjust and illegal, since it was on the highway first and is giving a necessary service, to force it to move and thus increase its investment, to its own damage.

## Mutual Company Authorized to Increase Its Charges.

The application of the Garfield Mutual Telephone Co., of Barwell, for authority to increase rates has been approved by the Nebraska State Railway Commission. The new rates increase business charges from $1.00 to $1.25 a month; individual residence service from 75 cents to $1.00, party-owned business and residence telephones from 40 to 75 cents, and switching charges from 25 to 60 cents. These will be subject to the usual discount for advance payments.

The company operates a comparatively small exchange, serving 59 business, 73 residence and 208 farmers, a total of 340 subscribers. Last year its revenues were $3,788 and expenses $4,589, leaving a deficit of $781.

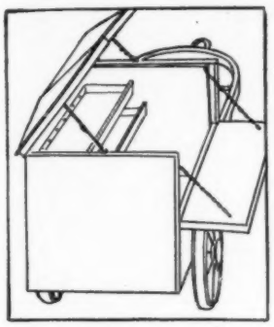
The commission says the increase requested will be of some slight assistance to the applicant in overcoming the difficulties under which it has been operating. The company, it was disclosed, had been making charges under a schedule that had never been approved by the commission, but the latter excuses this on the ground that it had frequently changed officers and that its records were not kept properly.

## New York Commission Approves Merger for Two Companies.

On September 10, the New York Public Service Commission granted the petition of the Ovid Telephone Co., Inc., for authority to acquire all the outstanding capital stock of the Yale Telephone Co., and approved the merger of the two companies which are located at Ovid, N. Y. It also permitted the Ovid company to issue $6,300 in common capital stock to be delivered to the stockholders of the Yale company in exchange for 63 shares of the Yale company stock at $100 per share.

The Ovid company operates telephone lines in Romulus, Ovid and Lodi in Seneca county. Its business office and exchange is at Ovid. The Yale company operates telephone lines in Fayette and Varick in Seneca county, and has an exchange at MacDougal. Its business office is also located at Ovid.

The lines of the two companies connect and the Ovid company petitioned the com-



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mission to acquire all the outstanding stock of the Yale company and merge the companies into one corporation. The Ovid company believed that the combining of the two companies would reduce expenditures and provide some funds with which to improve the plant as well as the service.

Upon completion of the merger, the Ovid company will have outstanding 126 shares, par value $12,600, leaving authorized and unissued 39 shares par value $3,900.

The New York commission held that the merger is in the public interest, in that it will provide telephone service by one company at a reduced operating expense and improve the service.

## New Owner of Nebraska Exchange Asks Change in Billing Practices.

P. B. Still has purchased the property at Platte Center, Neb., operated for a number of years by the Farmers Independent Telephone Co., a local organization, and has applied to the Nebraska State Railway Commission for authority to change the billing system.

In the past the city subscribers have been billed for the new rates the first of each month, while the rural subscribers have been billed at the gross rates. He thinks it would be better practice to give all subscribers the benefit of the discount allowed for advance payments, and suggests that a rule be adopted which will permit him to bill both classes alike the first of the month at the net rate.

## Court Acts in Territory Encroachment Created by Subscriber.

The Greenwich Farmers Telephone Co. and the Fitchville Telephone Co., both located in Huron county, Ohio, were in court recently over patrons on the border line between the two territories. The case was heard by Common Pleas Judge Carpenter in Norwalk, on an application for an injunction to restrain the defendant company from serving H. J. Parrott, on the grounds that he lived in the territory of the plaintiff.

It appeared that Mr. Parrott, being dissatisfied with the increase of rates from $1 to $1.50 by the Greenwich company, built 3,000 feet of line to connect with the Fitchville exchange, where the rate is 85 cents. The court held that Mr. Parrott could continue to use his private connections but in the future each company was enjoined from interfering with subscribers of the other company.

## Stock Control Transfer to Result in Improved Toll Service.

A certificate has been issued by the Interstate Commerce Commission approving the acquisition by the New England Telephone & Telegraph Co. of control of the Orange County Telephone Co. by purchase of capital stock, both companies operating in the state of Vermont.

The Orange company owns and operates a telephone system, consisting of exchange and toll lines, in Addison, Orange, and Washington counties, Vermont. The lines of the Orange company and the New England company are connected for the transmission of long distance toll messages.

The Orange company was incorporated in 1903, each organizer agreeing to build and maintain .5 of a mile of line. As the territory developed the company extended its operations until a total of 1,214 stations are now served, with exchanges at nine points. The total area now served has a population of approximately 13,340. The New England company furnishes only toll service in this territory.

Much of the Orange company's plant is magneto with grounded line construction. A large part of the wire is iron, some of it attached to trees. It is stated that the condition of the plant interferes with the toll service to such an extent that there are constant complaints.

Officers of the Orange company realize that it is not in a position to finance the large expenditures necessary for rehabilitation and improvements, including replacement of toll iron wire with copper circuits. With control of the Orange company, the New England company can and will do what is necessary to render adequate service in the territory.

The New England company has previously assisted the Orange company in various ways to avoid competition and complaints with respect to the toll service, and it is for the sake of such service that it has entered into certain agreement. The proposed transfer of stock will have no effect on rates.

The Orange company has outstanding $26,550 of capital stock, divided into 1,770 shares of the par value of $15. Of this stock 1,414 shares, or approximately 80 per cent, are owned by five officers and directors of the company.

Under date of January 20, 1930, the New England company entered into agreements with the Orange company for the purchase of its stock at $8.33 per share, payable in stock of the New England company at par. For convenience it proposes to issue its stock in the ratio of one share for 12 shares of the Orange company's stock. If preferred, payment will be made in cash.

It was stated that the New England company is prepared and willing to purchase the remaining 356 shares of the stock on the same basis and expects eventually to acquire all the stock. Acquisition of all the stock would require the issue of 147.5 shares of its stock.

An appraisal of the properties by an engineer of the New England company finds the cost of reproducing the properties new to be $130,582 and less depreciation, $88,-131. These figures include engineering, administration, and legal expenses during construction.

Results of operation of the Orange company during 1929 were as follows: Operating revenues, $32,680.73; operating expenses, $30,683.74; net operating revenues, $1,996.99; taxes and interest, $3,265.64, and deficit for the year, $1,699.95. No dividends were paid.

From the evidence presented at the hearing, the Interstate Commerce Commission found the proposed acquisition to be in the best interests of the public, and a certificate was issued to that effect.

## County Seeks Receiver for Ohio Public Utility Group.

Amended petition has been filed in the Hardin county common pleas court at Kenton, Ohio, by Leroy S. Latham, county treasurer, against the Suburban Power & Light Co. for the payment of $15,283.45 in alleged back taxes and for the appointment of a receiver for the company.

The petition, filed by Prosecutor M. B. Underwood, comes closely upon the heels of protests filed by Ada, McGuffey and other Hardin county towns against increased rate schedules proposed by the corporation.

The Suburban Power & Light Co. operates retail power distribution, telephone companies and interurban lines in many Ohio communities, the petition reads, and of these, only the telephone enterprises have been profitable and are solvent. The remaining two are insolvent, it is charged.

The petition further avers that the Suburban Power company, without authority of law, has begun to separate its telephone enterprises from the remaining two and is about to form separate and independent companies for the taking over of its telephone enterprises, which would destroy assets of the remaining two.

The defendant's indebtedness now totals $515,000, the petition sets forth, including $360,000 for wholesale electric power from the Ohio Power Co., $75,000 to rural residents for right of ways and leases, another sum for connection charges, and $50,000 to other Ohio counties for back taxes.

## Summary of Commission Rulings and Schedule of Hearings.

INTERSTATE COMMERCE COMMISSION.

August 29: Order issued approving the acquisition by the Southwestern Bell Telephone Co. of the properties of W. T. Conway and A. J. Nelson, doing business as the Haileyville Telephone Co., Haileyville, Okla.

September 3: Order issued approving the acquisition by the New England Telephone & Telegraph Co. of control of the Orange County Telephone Co. by purchase of capital stock, both companies operating in the state of Vermont.

September 24: Hearing at Washington, D. C., on joint application of the Bell Telephone Co. of Pennsylvania and the McMurray Telephone Co. for authority by the Bell company to acquire the properties of the McMurray company, postponed from September 17.

(*Please turn to page* 43.)

## Open Wire Data.

### General.

There are three principal kinds of wire used in open wire telephone plant, viz.: (a) iron, (b) Copperweld, and (c) hard drawn copper. This data sheet discusses the physical and electrical characteristics of each.

### Iron Wire Characteristics.

Iron wire is available in three grades referred to as steel, B.B. and E.B.B. "Steel wire" is used for short-line service where high tensile strength is preferred to electrical conductivity. Localities requiring unusually long span construction can sometimes use steel wire to good advantage.

"B.B. wire" is the type commonly used for iron wire toll and rural circuits. This grade of wire has a better electrical conductivity than steel, but is poorer in tensile strength by about 14 per cent.

"E.B.B. wire" has a higher conductivity but lower tensile strength than either of the other two classes of iron wire. The increase in conductivity, however, is not sufficient to warrant its use in preference to "B.B." wire.

All iron telephone wire is galvanized and with the new and improved process, the galvanizing has a long life and will not strip and peel as was the case some years ago. The following tables give the physical and electrical characteristics for B.B. iron wire.

Table of Iron Wire Physical Characteristics.

| Size B.W.G. Gauge | Diameter Ins. | Weight per Mile, Lbs. | Standard Coil | Tensile Strength, Lbs. |
|---|---|---|---|---|
| No. 4..... | .238 | 811 | ¼ mile | 2,271 |
| No. 6..... | .203 | 590 | ⅓ mile | 1,652 |
| No. 8..... | .165 | 390 | ½ mile | 1,092 |
| No. 9..... | .148 | 314 | ½ mile | 879 |
| No. 10..... | .134 | 258 | ½ mile | 722 |
| No. 11..... | .120 | 206 | ½ mile | 577 |
| No. 12..... | .109 | 170 | ½ mile | 476 |
| No. 14..... | .083 | 99 | ½ mile | 277 |

Table of Iron Wire Electrical Characteristics

| Size B.W.G. Gauge | Ohms per Mile | Feet per Ohm | Transmission I Mile equiv. to |
|---|---|---|---|
| No. 10 ..... | 22.48 | 234 | .224 m.s.c. or .237 D.B. |
| No. 12 ..... | 34.12 | 154 | .286 m.s.c. or .302 D.B. |
| No. 14 ..... | 58.59 | 90 | .358 m.s.c. or .378 D.B. |

Both the tensile and electrical characteristics of iron wire make it a suitable medium for rural lines. It has one serious objection—it is non-uniform over a period of years in its transmission efficiency.

A series of field measurements made on a large number of plants indicated that the transmission loss on the average



iron-wire plant quadrupled in 20 years. This loss increase comes mainly from poorly-made splices. A properly-made sleeve joint should remain constant.

The major portion of the rural lines in this country are of No. 12 B.B. iron although there is an increasing number of copper rural lines being built each year. No. 14 B.B. iron wire has been used in the past to some extent for town plant, but its use for this purpose has been abandoned in favor of No 12.

### Copper Wire Characteristics.

Copper (hard drawn) is used for all high-grade toll circuits, and in some cases for rural lines. Copper is much superior to other wire materials from a transmission standpoint. The following tabular comparison of the number of miles of each class wire over which 30 m.s.c transmission can take place, illustrates this fact rather forcefully.

| | |
|---|---|
| No. 14 iron B.B. B.W.G..... | 75 miles |
| No. 12 iron B.B. B.W.G..... | 94 miles |
| No. 10 iron B.B. B.W.G..... | 120 miles |
| No. 10 Copperweld A.W.G..... | 181 miles |
| No. 8 Copperweld A.W.G..... | 254 miles |
| No. 12 Copper A.W.G..... | 423 miles |

Table of Hard Drawn Copper Wire Characteristics Physical and Electrical

| Size | Diam. Ins. | Lbs. Per Mi. | Tensile Strength, Lbs. | Ohms Per Mi. | Trans. Equiv. in D.B. |
|---|---|---|---|---|---|
| No. 8 B.W.G.. | .165 | 435 | 1322 | 2.09 | .027 |
| No. 10 N.B.S... | .128 | 262 | 819 | 3.48 | |
| No. 12 N.B.S... | .104 | 173 | 550 | 5.20 | .068 |
| No. 14 N.B.S... | .080 | 102 | 330 | 8.94 | |

The No. 12 N.B.S. (.104) is the size wire most generally used for telephone toll lines. Certain of the transcontinental lines are of No. 8 B.W.G. Copper wire in addition to having excellent transmission qualities, also has long life plus high salvage value. In comparing iron or Copperweld costs against hard-drawn copper, this high or positive salvage value must be considered. The life of copper wire is practically unlimited, neglecting mechanical weakening during sleet storms. Copper wire requires careful handling to prevent damage and subsequent wire breaks.

### Copperweld Wire Characteristcis.

Copperweld wire consists of a steel wire with copper coating. It has the advantage over B.B. iron wire in both tensile strength and conductivity, as well as freedom from corrosion. This wire is made by welding a heavy coating or layer of copper to a steel ingot. Then by regular wire-drawing processes, this combination is formed into commercial sizes of telephone wire.

Wire made by this process seems to have about the same life as copper wire. A given size wire may be obtained in several grades of conductivity. The grading in conductivity



is obtained by regulating the thickness of the copper coat during manufacture.

The following table covers high strength "Copperweld" wire characteristics:

Table of High-Strength Copperweld Physical and Electrical Chacteristics.

| Size A.W.G. | Diam. | Lbs. Per Mi. | Tensile Strength Lbs. 40% Cond. | Tensile Strength Lbs. 30% Cond. | Ohms Per Mi. 40% Cond. | Ohms Per Mi. 30% Cond. | D.B. per Mile. |
|---|---|---|---|---|---|---|---|
| No. 8... | .128 | 240 | 1,650 | 1,800 | 8.53 | 11.38 | .111 |
| No. 10... | .102 | 153 | 1,130 | 1,230 | 13.45 | 17.90 | .155 |
| No. 12... | .081 | 96 | 710 | ... | 21.30 | ... | .212 |

### Tree Wire.

It is often necessary for open-wire leads to pass through trees which cannot be trimmed to clear the lead. In such cases a wire known as "tree wire" should be used. This wire consists of a regular line wire insulated with several braids impregnated with a moisture-proof compound and an outside braid which is finished with a smooth, hard surface. This wire can be obtained with an iron, copper, or Copperweld conductor.

Tree wire will eliminate leakage and trouble from swinging short-circuits and crosses. It should be spliced to the regular line wire with sleeves.

### Open Wire Insulators.

There are several different types of insulators for use on open-wire leads. The type to use will depend on the class of circuit which the lead carries. The field of use of the various types of insulators is as follows:

No. 9, weight 9 ounces. This is suitable for magneto line construction, either city or rural; also satisfactory for short, open-wire extensions on common battery plants.

No. 12, weight 10½ ounces. This insulator has two wire grooves and is, therefore, useful at terminal poles where wires are dead-ended from two directions. It offers slightly better insulating qualities than the No. 9.

No. 16, weight 14 ounces. This insulator is much heavier than the No. 9 or No. 12. It is designed especially for long distance toll lines where the leakage per mile must be kept low. Its insulating qualities under wet weather conditions are much superior to the No. 9 or No. 12.

No. 50, weight 25½ ounces. This is a two-piece insulator to be used with 9-inch pins at physical transposition points in rural lines and short toll lines. On high-grade toll circuits it is customary to use a drop bracket for making the transposition.

D. P. An insulator known as the "D. P." insulator is used by the large companies on their long-haul toll circuits. The insulating quality of this insulator is much superior to those listed above, due to the double petticoat

# ACORN WIRE

**The Acorn Insulated Wire Co. has devoted its facilities for the past fifteen years to the production of long lived rubber insulated telephone wires.**

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**"Acorn" rubber insulated wires will reduce your maintenance and replacement costs to a minimum.**

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## "COPPERWELD" LINE WIRE

Long spans for joint construction on rural lines are practical with Copperweld telephone line wire, because this non-rusting wire has a tensile strength as high as 170,000 pounds per square inch.

With the same vertical sags and line wire safety, the spans can be about 80% longer in lines constructed with Copperweld wire than for conductors of hard-drawn copper or galvanized wire of the same diameter as the Copperweld.

When designing a new line, an estimate of the cost, using the pole spacings obtainable with Copperweld, will often show a saving of 40% in pole costs.

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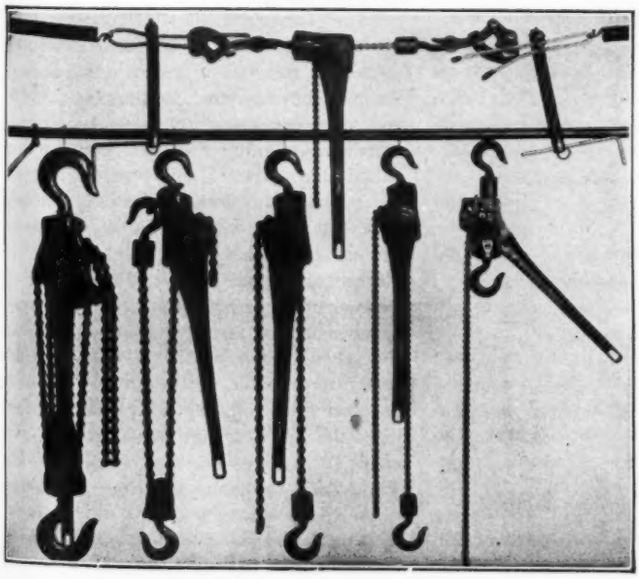

| Model Z | Model F. S. | Model F. | Model A | Model A |
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9-20-30

# Transoceanic Service Gives News Scoop

## New York Newspaper Utilizes Service to Buenos Aires to Obtain Authentic Last-Minute Uncensored Reports of Revolution Which Brought About Change of Government in Argentina—Dramatic Interview with Provisional President

The transoceanic telephone service is constantly being utilized by newspapers to secure information relative to news developments. On a number of occasions during the past two years London newspapers have called American cities to get authentic news stories quickly.

The recent revolution in the Argentine Republic was of much importance in North America, and last-minute news was greatly desired. To secure these reports the New York Times resorted to the transoceanic telephone service, and successfully secured authentic, uncensored last-minute reports of developments.

So successful was the experiment from the moment it was first tried that the wireless telephone was relied on throughout the critical week in which one government was overthrown and another won its way to power. In so doing The Times not only became the first newspaper to make extensive use of the transoceanic telephone in the regular day-by-day business of gathering news, but it was enabled to score several important news "beats" as well.

The manner in which the wireless connections were obtained was almost as exciting at times as the dramatic events whose accounts poured into the newspaper's office.

The high point of the entire week probably was the interview with General Jose Francisco Uriburu, the Provisional President, Wednesday afternoon, September 10, when for half an hour a reporter in The Times office in New York conversed with the new leader of Argentina at the latter's desk in the Government House in Buenos Aires. Such an interview had never been held before in the entire history of journalism.

But the covering of the revolution by wireless telephone had its thrilling moments from the very beginning, and the first call of all had an unexpectedly exciting outcome.

This call was made a few minutes after 6 o'clock on the evening of Saturday, September 6. At that time it was known in New York that the situation was tense in Argentina and that General Uriburu was demanding the complete withdrawal of President Irigoyen, but it was not suspected that a revolution was actually under way. The Times made its call because it had learned that cable dispatches from Buenos Aires were subject to censorship, and it wished to get an unhampered account of the situation.

The call was made from a reporter's desk telephone through the New York Telephone Co.'s toll operator and from there through the transatlantic operator of the American Telephone & Telegraph Co. It was made as simply and as swiftly as an ordinary suburban call. The Times got its correspondent on the wire and asked him what the situation was.

"The revolutionists have captured the Government House," came the startling reply.

"When?" demanded the New York man.

"Just a few minutes ago" was the reply from Buenos Aires. "I just came from there."

The correspondent was still out of breath, and his voice came so clearly through 5,300 miles of space that the reporter thought he could even hear him panting.

"Were there any casualties?" came the interrogation from New York.

"Yes. About ten killed, I think. It can hardly be more than a score."

Then the correspondent in brief sentences, packed with facts, began pouring into the telephone a swift, vivid story of the sudden march of the soldiers, the cadets and the populace on the Government House and of the flight of the Irigoyen government, while in the streets outside the populace was still cheering for the victory just won.

In the course of the evening, news of the revolution came into The Times office from other sources, and almost at press time came the report that there had been a thousand casualties. This report, if true, was extremely important from a news standpoint, and The Times immediately sought to check it up. It put in another call for its correspondent. The wireless telephone service to Buenos Aires normally would have closed at 6:30, but on that night the service was kept open later because of the crisis.

Late in the evening the correspondent was reached and was asked again how many casualties there had been. Again he insisted that the number could not possibly be a thousand and probably was in the neighborhood of a score. The Times therefore discarded the high casualty figure and used the low one. Dispatches the next day proved that its correspondent had given, by wireless telephone, the only accurate report.

Sunday night the wireless telephone brought in the news of the spread of the revolt throughout the republic and of the measures General Uriburu was taking to bring order out of chaos.

On Monday night there was another thrilling piece of telephoning. The afternon report received just before the wireless telephone service closed down told of the inauguration of General Uriburu as Provisional President in the Plaza de Mayo in the midst of an enormous popular ovation. Later in the evening, however, there were fragmentary rumors of firing in the city.

The wireless connection had been broken for the night. In response to the request of The Times, however, telephone officials cabled to the office in Buenos Aires asking it to send technicians to the wireless plant, 16 miles outside Buenos Aires, to re-establish communication. For an hour afterward the operators at the American end called Buenos Aires.

At last, at 2 o'clock on Tuesday morning, they reported that Buenos Aires was on the job and that they would have The Times correspondent in a few minutes. At 2:30 a. m. in came the voice of the correspondent, with another thrilling story of the second battle of the revolution, which had just occurred in the streets.

From then on the telephone company kept the wireless telephone circuit open until 11 o'clock so that each day The Times was able to get the last-minute news of the situation.

"The wireless calls were remarkable, both for the speed and efficiency with which they were handled and for the clearness with which the voices were carried," an account published in the New York Times stated. "Except for occasional static at night, the words of the far-away correspondent were heard as distinctly as if he were calling from the next block. The transatlantic operator handling the calls kept careful watch and subtracted any time lost because of faulty transmission."

### Latent Power of Two American Machines.

**The two American machines, the telephone and the vacuum-tube oscillator, the two inseparable twins in the radio art, have been shaping and they will continue to shape our American civilization. They promise to shape the other civilizations of the world in a similar way.**

**Their achievements so far justify the comforting hope that their latent powers will consolidate the nations of the world, so that some day they will be like the United States, one compact unit, worshipping the same ideals, and all yearning for peace on earth and good will among men.**—Dr. M. I. Pupin.

On Sunday night, September 14, the radio-telephone service was utilized by the Hearst newspapers in cooperation with the National Broadcasting Co. General Uriburu, provisional president of the Argentine Republic, delivered an address in Buenos Aires which was broadcast throughout the United States by station WEAF and the National Broadcasting Co.'s network.

General Uriburu spoke in Spanish and his deep voice came clearly to New York over the radio circuit. When he finished, W. H. Repp of the International Telephone & Telegraph Corp. in Buenos Aires broadcast an English translation of the address.

And so the telephone is continually eliminating distance and bringing countries of the world so close to one another that only a few minutes are necessary for great events in one country to be personally described in another country thousands of miles away in real distance.

## Replacement of Number Cards on Telephones in New York City.

Approximately two-thirds of the nearly 2,000,000 visits required to replace the number cards on New York City's telephones, preparatory to the introduction in December of the modified plan of naming central offices, have been made in a little more than three months, according to a check-up of the work reported September 15 by the New York Telephone Co.

An average of about 300 workers have been busy throughout the summer in making these visits, about one-half this number being employed in Manhattan which has roughly that proportion of the city's telephones. The chief task of each visiting worker is to place two number cards, one covering the other, in the number holder on each instrument. The top card shows the present central office designation and also bears the words "Tear Out" followed by a date. When the subscriber, on the date given, removes the top card, the card under it will show the new central office designation and remains permanently on the instrument.

Under the modified designation plan, each office will be designated by a name and numeral, making it possible in the future to give the same name with a distinguishing numeral in each case to several offices. The practice has been to introduce a new name each time a new office was opened.

With about 500 designations already in use in the New York metropolitan area, the limit on the number of names which meet all the requirements of public use would soon be reached under the old method. The new plan, which allows a more extensive use of existing central office names, will make it unnecessary for the public to become familiar with additional new central office names each year.

The work of replacing the number cards on the city's telephones has been more rapid in Manhattan mainly because of the large concentration and easy accessibility of telephones in the financial district. The record of completed visits in a single day was made by a worker in this district with a total of 340. The number of replacements per day per worker in Manhattan has averaged 93, and elsewhere in the city around 68.

## Filling Stations, Telegraph Agencies, Are Telephone Prospects.

Proposal of telegraph companies in the United States to widen the scope of their services by contracting with large oil companies for the use of filling stations in the capacity of adjuncts to branch offices is an important step to increase the service field of telegraphy.

An outstanding feature of this telegraph-filling station line-up is the aid it will offer to motorists. By being able to buy their gasoline and send telegrams from the station, motorists will undoubtedly be helped considerably. This service is seen as a mutual benefit to both filling station owners and the telegraph companies, as tourists stopping for gasoline may be attracted to telegraph opportunities, and vice versa.

It is said that one of the major companies plans to furnish telegraph blanks to the filling station workers who will take the messages, permitting the motorist to remain in his car. They will be forwarded to the nearest branch telegraph office by messenger or telephone.

Another telegraph company plans to install slot telephones at the filling stations from which the individual can telephone his message to the telegraph office and put the toll in the slot.

It is reported that one company has brought 3,500 filling stations into its system under this new arrangement and is negotiating for 2,500 more, while the other company has contracted for the services of 320 stations and is working on negotiations for another 3,000.

This new development in making communication facilities more accessible should provide some new prospects for telephone service among the filling stations.

## Telephone Men Chairmen of Committees of A. I. E. E.

At the August meeting of the board of directors of the American Institute of Electrical Engineers, President Lee announced the committee appointments for the administrative year beginning August 1, 1930. Telephone men are named as chairmen of several of these committees as follows:

Coordination of Institute Activities: H. P. Charlesworth, vice-president, Bell Telephone Laboratories, New York, N. Y.

Public Policy: Bancroft Gherardi, vice-president and chief engineer, American Telephone & Telegraph Co., New York, N. Y.

Code of Principles of Professional Conduct: Frank B. Jewett, vice-president, American Telephone & Telegraph Co., New York, N. Y.

Communication: G. A. Kositzky, chief engineer, Ohio Bell Telephone Co., Cleveland, Ohio.

Electrophysics: O. E. Buckley, assistant director of research, Bell Telephone Laboratories, New York, N. Y.

## Indiana District Association Holds Meeting at Kentland.

The Benton Telephone Association held a meeting at Kentland, Ind., on Thursday, September 18. Separate sessions were arranged for the men and women, the men meeting in the club room of the telephone building and the women in the public library.

The Newton & Benton Counties Telephone Corp. of Kentland, was in charge of the program which included discussions on "Rights of Utilities on Public Highways," "Transmission Problems of Tributary Exchanges," a talk on "Sales," and timely subjects relating to up-to-date operating practices.

This meeting was the first held by the association for some time and all who attended enjoyed the interesting program given. The Benton Telephone Association is a district association of the Indiana Telephone Association of which W. H. Beck is secretary-treasurer.

## College Girls Work as Operators in Summer Vacations.

The heavy increase in the use of intercity telephone service during the summer months made necessary this past summer the temporary employment of extra operators in many localities. To meet the situation the traffic department of the Pacific Telephone & Telegraph Co., Portland, Ore., selected and trained six high school graduates, all of whom were to enter college in the fall, to work in the toll room during the summer months.

It is planned that they may return to their jobs each summer while in college. This system will help these young women to finance their college education and will, it is expected, eliminate the necessity for releasing or transferring girls temporarily employed.

## South Dakota Association to Hold 1931 Convention in January.

The dates for the 1931 annual convention of the South Dakota Telephone Association have been scheduled for January 13, 14, and 15. Sioux Falls, S. D., has been selected as the city most suitable in which to hold this convention. Hotel arrangements and the program will be announced at a later date.

Thos. Phalen, of Aberdeen, is secretary-treasurer of the South Dakota association.

# With the Manufacturers and Jobbers

## Buda-Hubron Earth Drill Designed for Mounting on Tractor.

A new model of Buda-Hubron earth drill has recently been brought out for mounting on the Caterpillar 20 tractor. This machine is so designed that it can be mounted in the field for any standard

**Buda-Hubron Earth Drill, Winch and Pole-Setting Derrick Mounted on Tractor; Spindle in Position for Drilling Vertical Hole and Derrick Raised for Setting Pole.**

pole-setting derrick, which is of the "A" frame type, is mounted to the rear.

With this mounting, the center of gravity of the tractor is very close to the same point as on the tractor before the equipment is mounted on it; therefore, the tractor can be taken in very rough places. In mounting the earth drill to the side of the tractor, there are no overhanging parts to the front or to the rear which makes it easy to go through ditches and up the sides of banks.

With a one-ton load suspended from the derrick, the tractor may be moved to location. The derrick can be readily lowered and the drill spindle of the earth drill can also be lowered very quickly for transportation purposes.

Both the winch and earth drill are operated by the tractor engine, power being taken from a special power takeoff lo-Caterpillar 20 tractor. It can also be mounted on the wide type tractor.

The earth drill is mounted on the side of the tractor so that the operator has a clear view of the hole location. The winch is mounted on the opposite side and the cated to the rear of the tractor. The earth drill is mounted in a special cradle.

The side movement of the drill spindle is taken care of by a worm and wheel, and the fore and aft movement is taken care of by swinging the drill in the cradle. This cradle and worm arrangement give very quick adjustments for drilling perpendicular holes when the tractor is on uneven ground. Holes may be drilled at any reasonable angle for anchors, etc.

The earth drill will drill holes up to 24 inches in diameter and to depths up to 10 feet, although greater depths can be handled under special specifications. The total weight of the complete unit is 12,000 lbs., ready for drilling holes 24 inches in diameter, 7 feet in depth. The height of the derrick is 18 feet.

## Ohio Company Installs Stromberg-Carlson Magneto Switchboard.

The Morning Sun Telephone Co. of Morning Sun, Ohio, recently cut into service a new No. 105-B Stromberg-Carlson magneto switchboard. This company has owned a Stromberg-Carlson magneto board for the past 18 years, and according to the officials of the company the board and equipment have given the utmost satisfaction and service.

## BOOK REVIEW.

PROBLEMS IN PUBLIC UTILITY MANAGEMENT, by Philip Cabot and Deane M. Malott. Published by McGraw-Hill Book Co., New York. 632 pages, 9 ins. by 5¾ ins. with many tables and diagrams. Price $6.

Management in the public utility field, and particularly in the telephone branch, is a subject that has been much to the fore in recent years. Public utility executives, students and members of the legal profession interested in utilities will be interested in this book, the second edition of which has just come out.

The problems covered in the book were prepared under the supervision of the department of public utility management of the Graduate School of Business Administration, Harvard University, from reports of court and commission decisions and from information supplied by officers of public utility companies.

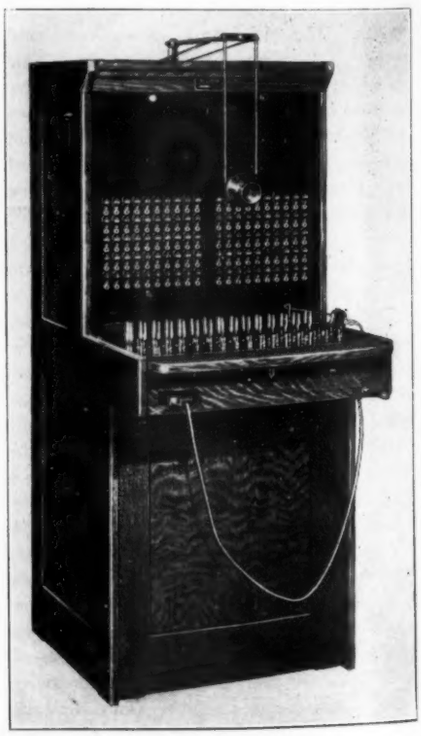
The emphasis of the problems is placed on the economic rather than on the administrative or engineering side. The most urgent engineering problems have been solved and it seems probable, it is stated, that during the next generation the problem of marketing the output of the various companies will be their major task. Each of the four divisions of the book has a separate introduction designed to show the principles supported by the cases and indicating the general teaching method used.

In the first division characteristics of a public utility are discussed. Valuation, depreciation and fair return are covered in the second division and several telephone cases are cited. Under the section on marketing, the wholesale competitive field, the retail domestic field, public relations and advertising and production are discussed in turn. Telephone cases are cited to illustrate phases of the retail domestic field, public relations and advertising and production. Financing methods are covered in the final section, two of the illustrations being drawn from telephone cases.

## Kellogg Switchboard for Central Telephone Co., Vici, Okla.

Magneto switchboards have changed. The modern magneto board, like the automobile, has many graces and appointments which enable it to better serve its user. Lamp supervision, a great forward step in magneto switchboard design, was, it is claimed, first introduced and perfected by the Kellogg Switchboard & Supply Co.

Recognizing the importance of giving his subscribers good magneto service, L. R. Woolf, owner of the Central Telephone Co., of Vici, Okla., learned of lamp supervision. He instantly saw the advantage of this feature, and being a capable manager recognized the desirability of giving modern magneto service until such time as common



**Kellogg Magneto Lamp Supervision Switchboard of Type Installed in Vici, Okla.**

battery would be required due to growth of the town.

A 200-line, lamp supervision board was purchased from the Kellogg company and is now giving Vici subscribers improved service. It is the largest single-position magneto switchboard built by Kellogg craftsmen, and is equipped with all the features that can be given in such a board. As only 150 of the 200 lines are now in use, future growth is assured easily and inexpensively by the extra capacity.

Mr. Woolf and his patrons are proud of the new telephone switchboard which is now serving them.

### Old Stromberg-Carlson Telephone Taken from Service.

One more ancient Stromberg-Carlson telephone has been taken out of service after it had been in use since 1901. The telephone is 5 ft. 9 ins. high and 14½ ins. wide. It will hold 24 No. 6 dry cell batteries.

**Telephone Just Removed from Service in Fairfax, Mo., After 29 Years' Use.**

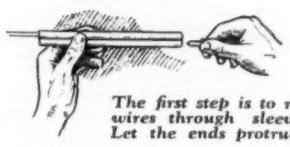
The telephone was removed from a home in Fairfax, Mo., by the United Telephone Co. In spite of its age, the instrument still gives good service; the chief objection to its use was that it took up too much space in the home.

There are two more of these telephones still in service in Fairfax and according to reports, the instruments have given the best of service and are good for many more years.

### Prices in the Metal Markets.

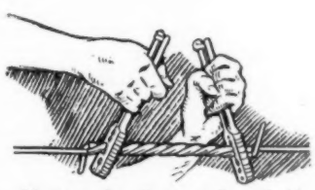
New York, September 15: Copper—Quiet; electrolytic, spot and future, 10¾@11c. Iron—Quiet; No. 2, f. o. b. eastern Pennsylvania, $18.00@19.00; Buffalo, $16.00; Alabama, $11.50@14.00. Tin—Quiet; spot and nearby, $29.87; future, $30.05. Lead—Steady; spot New York, 5.50c; East St. Louis, 5.35c. Zinc—Quiet; East St. Louis spot and future, 4.25@4.30c


# NATIONAL SLEEVES

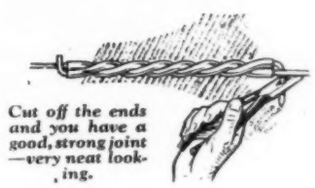


*The first step is to run wires through sleeves. Let the ends protrude.*

*Then bend the ends with pliers, is the second step in making the splice that holds.*



*Next—make three and a half turns with the pliers on either end—twist tightly.*



*Cut off the ends and you have a good, strong joint —very neat looking.*

*National Double Tube Sleeve, Sizes 17 B & S to 4/0 B & S Strand.*

## The Quick — Efficient Way of Making an Unbreakable Uniform Joint.

NATIONAL Splicing Sleeves are designed to meet the particular problem that the construction and maintenance men face in each day's work—that of making the line joint once and for all time.

Because of their tensile strength, durability, efficiency, and ease in making the joint, "National's" have an especial appeal for the man on the job.

The four little illustrations at the left, show how quickly, easily and simply an unbreakable, uniform joint can be made with these National Splicing Sleeves.

When you use National Sleeves in making a splice, you are assured of uniform joints all along the line. In every instance every joint will be equally strong, equally air and moisture proof with every other, and there'll be no weakening or breaking of the lines at the joints.

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PATENTS

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# Dial Equipment for Wisner, Neb.

## Cuming County Telephone Co. to Place Its Wisner Exchange on Automatic Basis—Company Orders 800 Telephones, Many of Handset Type—Features of Equipment and Operating Details

By A. C. Stratton,
*Manager, St. Paul Sales Office, Automatic Electric Inc.*

The town of Wisner, Neb., is located approximately 100 miles northwest of Omaha, in the midst of a farming and cattle raising area. It is the shipping point for a large amount of grain and many head of cattle; more of the latter being originated from Wisner than from any other point on the Chicago & North Western Railroad.

The population of Wisner, over 1,500 people, is strong in civic pride, and the town's inhabitants have combined their efforts to give it many miles of paved streets, an excellent electric light and power plant and one of the finest systems of public water supply in the United States.

It was quite fitting, then, that when the Cuming County Telephone Co. began to consider the modernization of the telephone system of Wisner, it felt desirous of installing the finest equipment for its purposes. To this end a thorough investigation was undertaken by officials of the company, which included many trips to cities and towns where various types of telephone equipment were providing service to the public.

Not only were the officials of such companies interviewed as to the results obtained, but the subscribers themselves were closely questioned regarding their attitude toward the particular system in use in that locality. The recommendation for the installation of dial equipment is an indication as to the results of this investigation.

Prior to placing the order for the new equipment, the telephone company conducted a canvass of the telephone-users to determine whether they would prefer dial service to other methods of operation. The result was that over 85 per cent of the subscribers signed individual cards requesting the installation of automatic service at an increased rate.

### New Equipment Ordered.

The order, which has been placed with Automatic Electric Inc., Chicago, includes a complete dial installation and 800 new telephones, a good share of the latter to be monophones. The dial equipment will use self-aligning plunger-type line switches, selectors and frequency selecting connectors. Rural lines, as well as local lines, will be limited to ten stations per line, and five-frequency harmonic current will be utilized to give full selective ringing. All local calling, including stations on the same party line, will be effected by means of the dial.

Wisner will be operated as an unattended exchange, and will have free service to the Beemer exchange of the Cuming County Telephone Co. Wisner subscribers wishing a Beemer number will dial "9." This will light a lamp on the Beemer switchboard and the operator there will complete the call. Beemer subscribers wishing a party in Wisner will give the number to their operator at Beemer, who will dial the Wisner party direct by means of the dial which she will have at her position.

Wisner subscribers wishing long distance will dial "0," which will signal the toll operator at the toll center, who will complete the call in the usual manner. The toll operator will dial toll cals into Wisner direct by means of her dial. It is planned to convert Beemer to dial operation later on, at which time there will be free interdialing between the two towns, both of which will then be operated as unattended exchanges.

### Officers of the Company.

The Cuming County Telephone Co. is entirely locally owned. The president of the company is O. A. Thompson, formerly a member of the state legislature and an operator of extensive farm properties in the vicinity. The treasurer is H. E. Leisy. Mr. Leisy is at present mayor of Wisner, besides being president of the Wisner State Bank and a large farm owner.

The secretary and general manager of the company, J. W. Richmond, has been in the telephone business since 1899 and has managed the Cuming County Telephone Co. for 21 years. Mr. Richmond is active in the affairs of the Nebraska Telephone Association and has held several offices in that association.

In selecting the Strowger dial system for Wisner, the officials of the Cuming County Telephone Co. have added another progressive municipality to the growing list of Nebraska cities and towns already using this equipment. Among these are Lincoln, Kearney, Waverly, Havelock, Seward, Columbus, Newman Grove and Hansen.

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### Nebraska's 1931 Annual Convention Will Be Held in Lincoln.

The Nebraska Telephone Association will hold its 1931 annual convention in Lincoln, February 10, 11, and 12.

The convention will take place at the Hotel Lincoln. The program will be announced later. Geo. M. Kloidy, of Lincoln, is secretary of the association.

## WHAT THE COURTS AND COMMISSIONS ARE DOING.

(*Continued from page* 34.)

The McMurray company owns and operates a telephone system in parts of Allegheny and Washington counties, Pennsylvania. No competition in service exists between the two companies.

September 24: Hearing at Washington, D. C., before Examiner Davis on joint application of the Southwestern Bell Telephone Co. and J. T. McLin, doing business as the Clinton Mutual Telephone Co., for authority to the Southwestern Bell company to acquire the property of the Clinton Mutual company, which has exchanges at Clinton and Arapho, Okla.

The hearing was originally set for September 17 but was postponed to this date.

CALIFORNIA.

September 10: Application filed by the Valley Telephone Co., of Holtville, for permission to sell its system, operated in Imperial county in the territory lying east of the Alamo river and north of the United States-Mexico international boundary line, to the Southern California Telephone Co.

The Southern California company desires to purchase and acquire the property for the sum of $23,000, plus the cost of additions made between the period from December 13, 1929, to the date of purchase.

September 11: G. F. Green authorized to sell, and J. T. Shipley to purchase and to operate, a telephone exchange known as the Ripon Telephone Exchange, serving the town of Ripon in San Joaquin county, for the sum of $25,000, and to issue promissory notes in part payment therefor in the amount of $12,000, with interest not to exceed 7 per cent per annum.

The commission also authorized G. F. Green to abandon his public utility obligations upon the transfer of the properties to Mr. Shipley.

ILLINOIS.

September 17: Hearing at Springfield before Commissioner Collins on proposed advance in rates for service in Chester, county of Randolph, stated in rate schedule I. C. C. No. 2 filed by the company.

MICHIGAN.

September 10: Hearing on the petition of the Tri-County Telephone Co. for authority to increase its rates at its Grayling exchange.

An increase in business lines from $2 to $3.25 monthly and an advance in residence lines from $1.50 to $2.25 is requested.

MINNESOTA.

October 9: Hearing at Hammond on application of the Hammond Telephone Co. for authority to change its schedule of rates at Hammond, postponed from September 17.

MISSISSIPPI.

September 3: Southern Bell Telephone & Telegraph Co. filed a petition for increased rates in Jackson. The proposed increase is predicated upon the company's announced intention to spend $1,800,000 for improvements in its property in Jackson, the petition stated.

It is proposed to increase individual business telephones from $5.50 to $6.50 monthly; individual residence service from $3 to $3.50 and two-party lines from $2.40 to $2.75, with other adjustments.

MISSOURI.

September 8: Hearing on application of the Scotia Telephone Co. for a certificate of public convenience and necessity to construct and maintain a toll line between Eldon and Versailles.

NEBRASKA.

September 9: Application of the Union


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Telephone Co., of Carroll, for an increase in rates to become effective when reconstruction of plant is complete; found reasonably necessary for corporate purposes and authority issued as requested.

September 11: Application filed by Platte Center Telephone Co. for authority to charge gross and net rates.

NEW YORK.

September 10: Petition of the Ovid Telephone Co., Inc., of Ovid, for authority to acquire all of the outstanding capital stock of the Yale Telephone Co., of Ovid, granted, and the merger of the two companies approved.

The Ovid company was also permitted to issue $6,300 in common capital stock to be delivered to the stockholders of the Yale company in exchange for 63 shares of the Yale company stock at $100 per share.

OHIO.

September 16: Hearing on application of the Ohio Communities Telephone Co. to acquire 13 small companies located in southeastern Ohio. The companies which the Ohio Communities company seeks to acquire are: Amanda Bell Telephone Co., Amanda; Barlow-Watertown Telephone Co., Watertown; Celina & Mercer County Telephone Co., Celina; Coshocton County Telephone Co., Coshocton; Farmers' Telephone Co., Caldwell; Garrettsville Telephone Co., Garrettsville; Gibsonville Telephone Co., Gibsonville; Lowell Farmers Telephone Exchange, Lowell; Mendon Telephone Co., Mendon; Ohio City Home Telephone Co., Ohio City; Pleasant City Telephone Co., Pleasant City; Willshire Telephone Co., Willshire, and the Wren Telephone Co., Wren.

TENNESSEE.

September 8: Petition filed asking for a 33 per cent reduction in rates of the Southern Bell Telephone & Telegraph Co., in Chattanooga and throughout the state. It is charged the rates are unreasonable, excessive and unjust. The petition was signed by 11,271 citizens of Chattanooga.

The petition requests that the telephone company be required to give an accounting to the commission of the exact earnings within Tennessee annually for the period since January 31, 1922, and also file sworn reports as prescribed by statute, showing operations and finances within Tennessee.

WISCONSIN.

September 12: Hearing at Ashland on application of the North Wisconsin Telephone Co. for permission to increase its rates at its Mason exchange.

The hearing was postponed from September 4 to this date.

September 12: Hearing at Ashland on application of the Spider Lake Telephone Co. for permission to increase its rates.

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Kansas City, Missouri

The regular quarterly dividends of $1.75 per share on the 7% First Preferred Stock; $1.00 per share on the Participating Preferred (formerly Class A) Stock; $1.00 per share on the Class C Stock, and dividends on the Class A Common Stock payable either in stock at the rate of 1/50th of one share, or in cash at the rate of $.50 per share, will be paid on October 15, 1930 to the stockholders of record on September 25, 1930, at 3:00 o'clock P. M.

Extra and participating dividends amounting to $1.00 per share will also be paid on the Participating Preferred (formerly Class A) Stock on October 15, 1930.

V. E. CHANEY, Vice-President and Treasurer.

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